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INFORMATION SERVICES MARKET ANALYSIS PROGRAMME—EUROPE

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COMPANY PROFILES

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Company Profiles

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CONTENTS

ANDERSEN CONSULTING
Arthur Andersen & Co., S.C.
69 West Washington Street
Chicago, IL 60602
(312) 580-0069

Managing Partner: George T. Shaheen
Status: Partnership operating world-wide
Total Consultants: 22,000
Total Personnel: 26,730
Revenue: (FYE 31-12-92)
$2.72 billion

ANDERSEN CONSULTING (EUROPE)
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Managing Partner: Vernon Ellis
Total Consultants: 9,834
Total Personnel: 11,245
European Revenue: $ 1.1 billion

The Company

Andersen Consulting was formed, as a distinct world-wide business unit within the Arthur Andersen world-wide organisation, in 1989. The original firm was founded in the U.S. in 1913 and entered the information services business in 1952.

The coordinating entity of the Arthur Andersen World-wide Organisation is Arthur Andersen & Co., S.C., based in Geneva, Switzerland. It includes all member firms and their related entities. This world-wide organisation serves clients through two business units: Arthur Andersen for audit and business advisory, tax and corporate speciality services; and Andersen Consulting for strategic services, integration services (systems integration and systems management), information technology consulting and change management services.

Andersen Consulting's European operations also co-ordinate markets in the Middle East, India and Africa.

Each member firm is privately owned and controlled by the partners in the country in which it operates. Member firms provide uniform professional training, share practice methodologies and technology, and coordinate their operations to eliminate barriers to serving clients.

The European business has expanded rapidly in recent years almost entirely through organic growth.

Andersen Consulting offers management and technology consulting to clients in nearly every business and governmental sector. The organisation helps clients use information technology competitively in all phases of their management activities - strategic, operations and financial.

Andersen Consulting believes it can ultimately help its clients "re-engineer" or rethink the way they do business - a process, the firm claims, that can lead to business integration, or the integration of technology, strategy, operations and people.

Andersen Consulting offers its services through the following service lines:

- Systems Management, including operations and network services, facilities management, applications management and backup/recovery services
- Systems Integration, including systems design, building, integration and implementation
- Strategic Services, including competitive and market strategy, organisation and change strategy, business operations strategy, and information and technology strategy
- Change Management Services, including organisation change, technology assimilation, knowledge transfer and quality management.

Andersen Consulting also offers manufacturing and logistics applications software products and FOUNDATION, a computer-aided software engineering (CASE) toolset.

Andersen Consulting currently serves clients through 151 offices in 46 countries. The organisation includes more than 22,000 consultants world-wide.

Andersen Consulting's fiscal 1991 world-wide revenue reached $2.26 billion, a 20% increase over 1990 revenue of $1.88 billion. 1992 saw a further 20% increase to $2.72 billion.

Organisation Structure

In the 1986-1987 time period, a number of Arthur Andersen & Co. senior consulting partners approached Duane Kulberg, AA's former CEO, to lobby for a change in the structure of the firm that would facilitate the growth of the consulting side of the business. They argued that the traditional "partnership" structure with practice office acceptability was inappropriate to a business with an increasing national and international focus. The result was the organisational change that created Andersen Consulting.

In 1987, the consulting partners in local offices began to report through a parallel line of management of regional and national consulting partners. At a national level, the consulting practice still reported to the Arthur Andersen practice head in that country - more often than not, with a background of audit. At the same time, a strengthened dotted-line relationship was created between the country consulting heads (or regional consulting heads in the U.S.) and the Consulting Managing Partner in Chicago. This move strengthened the consulting practice significantly.

Andersen Consulting now manages and delivers its services through the matrix structure depicted in Exhibit A.

Exhibit A

Andersen Consulting — Organisation Diagram of Senior Management

Based on INPUT's interviews with Andersen Consulting, responsibilities are distributed in accordance with Exhibit B, which compares how major responsibilities are managed within the commercial and federal organisations, respectively. A "C" indicates that the responsibility for the activity in question is primarily centralised, a "D" means decentralised, and a "B" indicates that the responsibility is shared by both.

Exhibit B

Centralisation/Decentralisation of SI Business Function
Andersen Consulting

RESPONSIBILITIES	COMMERCIAL	FEDERAL
Strategy and long-range planning	C	C
Marketing and promotion	B	C
Account management/sales	D	D
Contract review/approval	B	C
Project management/control	D	D
Implementation/development	D	D
Hardware/software acquisition	B	B
Systems operations (if applicable)	D	D

C = Centralised, D = Decentralised, B = Both

Centralised groups handle marketing, risk management assessment insurance, national contract purchasing and other activities. Local offices provide the sales emphasis and most of the technical professionals necessary for systems integration projects.

Andersen Consulting has established a number of Systems Operations, Advanced Technology and Business Integration Centres to support its activities.

- There are five Systems Operations Centres, which are large mainframe computer facilities staffed with project teams to run the day-to-day computer operations for an organisation. These centres are located in Chicago, Dallas, London, Toronto and Stamford (CT).

- Advanced Technology Centres are staffed with technical experts and project managers who use workstations and network PCs connected to these centres for the automation of the application development process for clients. Advanced Technology Centres

are located in Chicago, Dallas, Madrid, Manila and Stamford (CT).

- Andersen Consulting currently has four sites for its Business Integration Centres which specialise in industry- and function-specific technology. These centres serve as facilities where industry project teams from around the world build and demonstrate visions of the future through full-scale working technology exhibits (e.g., a factory floor or hospital of the future).

In 1989, Andersen Consulting reported a full-time world-wide IS practice staff of 18,000. INPUT estimated that 7,150 of the 11,000 individuals involved directly in the U.S. information systems consulting practice were directly involved in the SI practice. This number is based on the percentage of 1989 U.S. systems integration revenues. Exhibit C gives an indication of the distribution of resources between various SI-related activities.

Exhibit C

Distribution of SI Business Personnel
Andersen Consulting

Capability	Percent
Management, strategy, planning, marketing	1
Legal/contract administration, finance	1
Project management and administration	5
Design/development/implementation	83
Hardware/software evaluation/acquisition	5
Hardware engineering	1
Sales	4

The matrix structure employed by Andersen Consulting in the U.S. is shown in Exhibit D, and that for Europe in Exhibit E.

Andersen Consulting — Americas Operations*

* Shaded boxes indicate line operations. All others are classified under worldwide management.

Andersen Consulting — EMEA

Andersen Consulting's headcount for Europe is shown in Exhibit F.

Exhibit F

three-year Professional Headcount (FYE 31/12/1992)

	1990	1991	1992
EUROPE TOTAL	7,510	8,935	9,834

Andersen Consulting has maintained this growth almost exclusively through organic growth, with a firm policy of graduate recruitment and staff development. However they still have to recruit in first class experienced consultants for each market sector, and there are signs that this could become increasingly difficult. As the firm takes a larger and larger market share in its chosen sectors, so it is seeking an ever higher proportion of the available skill pool.

Andersen Consulting's services and products are offered through six major practices (the classifications are not specialized, but serve to organise Andersen Consulting's varied industry work). Each of the following practices is headed by a managing partner and staffed with consulting specialists who have developed industry-specific expertise:

- Financial Services (Financial Markets, Insurance, Retail Financial Services)
- Government
- Health care
- Products (Aerospace and Defense, Airlines, Discrete/Repetitive Manufacturing, Energy, Food/Consumer Packaged Goods, General Retail and Wholesale Distribution and Process Manufacturing)
- Telecom Industry Group
- Utilities.

Andersen Consulting invested $157 million ($7,200 per consultant) on training during fiscal 1991.

Through the Professional Education Division, more than 250 courses are available to each Andersen Consulting consultant. By the time a consultant reaches the associate partner level, he or she will have put in more than 1,000 hours of training.

- The St. Charles (IL) Centre for Professional Education is the organisation's hub for internal training that has 120 classrooms accommodating more than 2,000 participants.

- Other world-wide training locations include Manila, Philippines, Singapore and Veldhoven (the Netherlands).

Acquisition History

The European business has expanded rapidly in recent years almost entirely through organic growth. Several small acquisitions have been completed in the last four years to add specialist skills and products. These include Computer Management (Norway), CMC (Spain), Rossmore Warwick (U.K.) and RPS (France).

In more detail, Andersen Consulting's recent acquisitions have been as follows:

- In September 1989, Andersen Consulting acquired Rossmore Warwick, a 25-30 person British engineering firm that helps design new factories and new process lines.

- In July 1989, Andersen Consulting acquired Courseware, Inc. of San Diego (CA). Terms of the acquisition were not disclosed.

  - Courseware provides computer-based training and training support services to clients in insurance, data processing, communications, real estate, defense, aerospace and travel, as well as state and federal government. The company had 60 employees at the time of the acquisition and 1988 gross fees of $5.2 million.

  - The operations of Courseware have been merged into Andersen Consulting's Change Management Services (CMS) practice.

- In January 1989, Andersen Consulting acquired McCormack & Dodge's PIOS manufacturing resource planning system. McCormack & Dodge employees who had worked on PIOS development and marketing were offered positions with Andersen Consulting. Terms of the purchase were not disclosed.

  - With an installed base of 75 sites, PIOS is used by a number of large defense contractors.

  - The transaction is part of an agreement between McCormack & Dodge and Andersen Consulting under which the two firms will jointly sell McCormack & Dodge's Millenium financial

and human resources software and Andersen Consulting's MAC-PAC family of manufacturing software products.

- Other 1989 acquisitions include:
  - Computer Management Associates, a consulting firm in Oslo (Norway)
  - Synerlogic, a Canadian consulting firm
  - CMC Consultores, a Spanish consulting firm.

Recent Major Projects

Andersen Consulting reports that about 80% of its commercial systems integration clients come from its existing account base and about 20% from new prospects specifically solicited for SI. In the U.S. federal marketplace, the split is 50% from each source. Undoubtedly, the high percentage of repeat business in the commercial market reflects Andersen Consulting's long-term account relationships with larger firms, while the 50/50 split in the federal market is indicative of its more recent entry into that marketplace and the fact that the federal market is more RFP-driven. In both markets, Andersen Consulting claims that its business has been profitable.

In recent years, Andersen Consulting has moved from a position of mainly pursuing very large projects to soliciting smaller ones as well. INPUT estimates that Andersen Consulting wins almost 60% of the projects it actively bids on; and it has completed projects ranging from $2 million to $80 million (average size about $10 million). Andersen Consulting's top commercial customers are concentrated in discrete and process manufacturing, telecommunications, state and local government, banking and insurance, airlines and the federal government.

Although Andersen Consulting did not provide a list of specific projects, Exhibit G contains information on some of Andersen Consulting's key SI engagements.

Exhibit G

Examples of Andersen Consulting's SI Contracts

Company or Industry	Project Description	$ Millions
Lockheed	Computer-aided layout/ fabrication	3.0
Ashland Chemical	Order entry/inventory control	5.5
Ca. Dept./ Development Services	Cost recovery system	3.6
Social Security Administration	Integrated administrative and financial system	12.0
Electronics Industry	Circuit Board Test and Assembly	52.0
Utility Industry	On-line billing system	30.0
Retail Industry	Finance, inventory and sales	10.0
Northwest Airlines	Revenue accounting	N/A
Paris Bourse	Stock exchange clearing and settlement	N/A
Swiss Options and Financial Futures Exchange	Planning and implementing electronic clearing and settlement system	N/A

In more detail, some of Andersen Consulting's key systems integration projects are as follows:

- Andersen Consulting is a systems integrator in an effort to develop an optical document image processing system for the Ontario (Canada) Ministry of Consumer and Commercial Relations. The system will capture the province's 10 million statistical records.
- Andersen Consulting helped Northwest Airlines integrate artificial intelligence, image processing, workstations and other

technologies to create a system that helps Northwest more accurately track passenger revenue and collect marketing information about customers' travel and spending patterns.

- For the 1992 Winter Olympics, Andersen Consulting has integrated the computer systems that will administer operations, results reporting, ticket selling, lodging, accreditation and other functions.

- Andersen Consulting is one of three firms participating in the installation of a new accounting system for the state of Texas. Andersen will develop an executive information system decision support tool for the system.

- An integrated financial and administrative system is currently being developed for the U.S. Social Security Administration. The project is expected to be complete some time in 1992, having lasted 60 months at a cost of $12 million.

- The Paris Bourse, the fourth largest stock exchange in the world, is carrying out a project to modernise its clearing and settlement procedures. Andersen Consulting's contract includes the interconnection of 300 banks and 50 brokers with the capacity to handle 600,000 transactions every day.

- Andersen Consulting was hired by the Swiss Options and Financial Futures Exchange (SOFFEX) to plan and implement the SOFFEX exchange from scratch. Andersen Consulting was engaged as the prime contractor to open a Swiss options and futures exchange, develop/install an electronic trading and clearing system to link directly with member back offices, and manage other areas necessary to open the exchange.

- Power station automation project for National Power (U.K.).

- Involvement in the specification and development of an automated network environment for the U.K. Department of Social Security.

- An order entry and inventory control system was designed and implemented for Ashland Chemical. The project was completed in 1989 at a cost of $5.5 million.

- A computer-aided layout and fabrications system was established for Lockheed. The project was completed in 1987, lasted 10 months, and cost $3 million.

In addition to systems integration, Andersen Consulting is active in systems management, strategic services and change management services. Examples of projects carried out in these related areas are as follows:

Strategic Services:

Strategic Services helps clients develop market-driven strategies and align their business processes with those strategies in order to deliver value to customers.

Examples of work performed by the practice include the following:

- Competitive/market strategy: For a manufacturer of outdoor power equipment, Andersen Consulting developed and implemented a customer-driven strategic marketing plan and consumer strategy for the 1990s.

- Organisation and change strategy: Andersen Consulting helped a public transportation system make the transition from state administration to local control. Andersen planned the transition and designed a new organisation.

- Business operations strategy: For a multibillion dollar business unit of a major process manufacturer, Andersen Consulting streamlined the supply chain to simplify and speed the flow of products from manufacturer to distributor.

- Information and technology strategy: For a newly merged food products company, Andersen Consulting developed a strategy for integrating operations and information technology of the two previously separate businesses.

Change Management Services:

The Change Management Services practice helps organisations manage all elements of change.

- The philosophy behind change management is that the successful use of new technology depends on an organisation's ability to properly position, educate and motivate its people to employ it.

- Using methodologies and frameworks for planning, designing, implementing and maintaining change, Andersen Consulting seeks to help organisations develop well-organised, well-informed, highly skilled and highly motivated people at all levels.

Client examples include the following:

- Andersen Consulting planned, designed and developed technology-based training for the U.K. Department of Social Security in support of its migration from a pencil-and-paper operation to an automated networked environment.

- Andersen Consulting helped the Standard Chartered Bank of Hong Kong to revamp the bank's transactions systems throughout Asia. Andersen developed computer-based training for more than 3,000 employees to offer simulated practice and testing of more than 70 bank functions affected by the new system.

Systems Management:

Systems Management encompasses operations and network services, facilities management, applications management, software re-engineering and renewal, and back-up and recovery. Systems Management takes care of the daily needs of a client's systems so that the client can focus on its business. This service line is responsible for outsourcing deals in which a client turns over part or all of its data processing operations to Andersen Consulting.

Work in this practice area includes the following agreements:

- A $200 million, 10-year agreement with Sun Refining & Marketing Co., under which Andersen Consulting acquired Sun R&M's Dallas Computer Centre, hired its employees, and assumed management of all Dallas Computer Centre's operations. (Contract signed October 1990).

- A $50 million agreement with Voluntary Hospitals of America Inc. to install and manage a computer system that provides physicians and management at VHA member hospitals with comparative information on the cost and quality of patient care - even if their billing systems are different. (Contract signed fall 1990).

- Under a three-year, $10 million contract, Andersen Consulting is managing the Medical Data Centre of the Milwaukee County Medical Complex. Andersen is responsible for computer operations, applications, maintenance, technical support and applications development. (Contract awarded in September 1991).

- Under a five-year $89 million systems management contract, Andersen Consulting has assumed all of British Petroleum

Exploration Europe's (BPX) financial accounting services. In addition, BPX's 250 accounting services staff have been offered positions with Andersen Consulting and will be located in Aberdeen (Scotland).

- In January 1990, Andersen Consulting agreed to provide IBM SNA network support, systems software maintenance and technical support for Dial Corp.'s applications programming staff. As part of this $10 million, five-year deal, Andersen Consulting agreed to manage Dial's data centre in Phoenix and migrate operations to its Dallas systems operations centre.

- Other current U.S.-based systems management contracts are held by Andersen Consulting with Wickes Furniture, Chicago Tile, Maxxus and United Medicorps.

- U.K.-based systems management clients include Standard Chartered Bank, Greenall Whitley (brewers), Yorkshire Health Authority, part of the Department of Social Security, DRG and Banque Belge.

- Andersen Consulting was awarded a major systems management contract by London's International Stock exchange in April 1992, amid controversy that the contract did not go to open tender. The exchange's Taurus settlement system development was aborted in 1993, resulting in the chief executive's resignation.

Products and Services

(i) Technologies

Andersen Consulting has developed a range of CASE tools. They were initially used internally by their IS consultants, then launched on the open market under the name FOUNDATION. This range operates in a wide range of IBM, Digital and Bull environments and consists of:

- Method/1
- Design/1
- Install/1
- Plan/1

FOUNDATION is an integrated, automated software development environment designed to support the entire life-cycle of application software development.

In 1991, the company stepped up its investment in computer-aided systems engineering (CASE) to the tune of ú35.3 million for its Foundation strategy, pledging to spend a further ú20.5 million this year.

The company also announced its latest Foundation products for co-operative processing and the DEC Vax environment.

It claims the Install/1 version 2.0 is the first commercially available CASE product to support DEC's version of IBM's CASE AD/Cycle program, Cohesion, and generate DEC's ACMS transaction processing applications.

Andersen Consulting is also offering a client-server software engineering tool for the OS/2 environment following the release a few months ago of a co-operative processing version of Foundation for VAX/VMS. Andersen says it is working to integrate the two products so that OS/2 and Windows clients can access OS/2, VAX or IBM mainframe servers. Prices for the product range from $50,000 for a starter kit to $1 million for a large-scale project. Later this year Andersen's Method/1 methodology will offer rules for splitting applications among processors.

CO-OPERATE is an integrated methodology and software tool set for computer operations designed for the IBM MVS operating system.

FOUNDATION's components include the following:

- METHOD/1 is a LAN-based automated methodology that provides a systems development framework - from information planning to production systems support. The methodology provides support and guidance for several different development options. The project management component, MANAGE/1, includes work plan generation, project estimating and quality assurance. METHOD/1 is integrated with DESIGN/1 and PLAN/1 and is accessible on-line. As of early fiscal 1992 there were 715 METHOD/1 installations.

- DESIGN/1 is a LAN-based set of analysis and design tools available in a number of environments. DESIGN/1 automates systems design tasks and techniques to improve productivity and design quality. Analysts and designers use DESIGN/1 to develop data flow diagrams, paint screens and reports, and perform conversational prototyping. The product is mouse-driven, provides an easily followed menu-driven structure and facilitates the sharing of design data. DESIGN/1 supports the activities of METHOD/1 and can be customised to support other methodologies. As of early fiscal 1992, there were 915 DESIGN/1 installations.

- INSTALL/1 is a development environment and application generator for DEC, IBM and Bull. INSTALL/1 provides portability and reuse across multiple platforms because INSTALL/1-generated applications do not contain platform-specific logic. INSTALL/1 also provides support for workstation-based generation and unit testing of on-line and batch applications, and a mainframe execution environment and services to support the development of batch applications. As of early fiscal 1992, there were 115 installations of INSTALL/1.

- PLAN/1 is an automated LAN-based tool set for information planning and engineering. PLAN/1 helps information systems professionals incorporate business strategies for planning systems development projects. Components include an information model, data model facility, decomposition diagram facility, data flow diagram facility, and matrix facility. As of early fiscal 1992 there were 25 installations.

- FOUNDATION for Cooperative Processing is an OS/2-based set of tools for developing peer-to-peer, client/server applications and distributed application processing, not just a frontware to existing applications. FOUNDATION for Cooperative Processing increases productivity through reuse of system components and facilities maintenance by generating

  applications from a shared Released fiscal 1992, the product supports OS/2 Presentation Manager clients and LAN and MVS/CICS server environments. Expanded availability will occur throughout 1992. As of early fiscal 1992 there were 20 installations.

Andersen Consulting also tries to stay at the forefront of technology and promotes "visions of the future" to senior executives as part of the process of convincing them of the importance of IS. Here the company's Business Integration Centres have an important role to play.

Andersen Consulting currently has three sites for its Business Integration Centres which specialise in industry- and function-specific technology. These centres serve as facilities where industry project teams from around the world build and demonstrate visions of the future through full-scale working technology exhibits (e.g., a factory floor or hospital of the future).

Business Integration Centres are located in Chicago, Dallas and Atlanta, with planned sites in New York, Los Angeles, Houston, Sao Paulo and Tokyo.

Andersen Consulting uses partnerships to gain access to the technologies, such as imaging and smart cards, required to support these demonstration centres.

Andersen Consulting also has a strong commitment to research and development, through formal organisations such as Technology Services, and through projects and facilities sponsored by local offices and other internal groups.

- In addition, service, products and support facilities are sources of leading-edge ideas about products and the application of technology with clients.

- Despite recessionary conditions, in fiscal 1991 Andersen Consulting increased its research and development investment to approximately $264 million, up from $238 million the year before.

Technology Services is responsible for technology visioning and knowledge transfer. One of the group's primary responsibilities is developing emerging technologies for clients. Those technologies include artificial intelligence, image processing, telecommunications and object-oriented development. This unit also establishes standard practices and develops practice methodologies, practice aids and the FOUNDATION development tool. The group is organised as follows:

- Advanced Technology Group develops and disseminates technical speciality skills and provides direct support to local offices for client engagements. The group is organised into divisions, each of which specialises in a particular technology: New Age Systems (alternative architectures, workstation technology), Digital Equipment Corporation and AS/400, Knowledge-Based Systems Technology, Enterprising Systems and Imaging.

- Network Solutions participates in client engagements or projects in telecommunications and network computing and provides training and world-wide support to the consulting practice.

- CSTaR (Centre for Strategic Technology Research) seeks to identify technologies and techniques solving particular classes of business problems.

  - CSTaR consists of three areas of research: human systems integration, decision technology and software engineering.

  - Additionally, CSTaR is Andersen Consulting's liaison with Northwestern University's Institute for Learning Sciences and Microelectronics and Computer Technology Corp., a cooperative research venture involving 49 North American companies.

  - Research projects currently taking place in CSTaR include development of groupware and knowledge-based software engineering.

- FOUNDATION Development Group provides full-function CASE technology and associated services to the marketplace and consulting practice.

- The Advanced Development Group assists Andersen Consulting professionals in their use of new technology. Current programs include enhancing Andersen Consulting's capabilities with information engineering techniques, creating a new methodology for custom systems design and installation and incorporating workstation and object-oriented technology into the practice.

- Knowledge Transfer supports Andersen Consulting by providing knowledge transfer and training in key technical, functional and industry areas.

Andersen Consulting's Business Integration Centres are working environments that demonstrate how technology, when integrated with a business vision and management sense, can change the way business is done.

The centres are used primarily for research and development, training client and internal personnel, and demonstrating technology solutions from Andersen Consulting and participating vendors of hardware and software.

Andersen Consulting's services are supported through two types of facilities - systems management centres and advanced technology centres - and network management services.

Systems management centres are large, mainframe computer facilities that support systems operations services.

Advanced technology centres (ATCs) are staffed with technology specialists, workstations, and computer networks to provide client support, marketing support, and research and development. The skills and knowledge of specialists at ATCs can be shared on multiple client projects, as opposed to having resources tied to one long-term engagement.

Andersen Consulting's Network Solutions practice provides a range of network integration and network management consulting services to support the organisation's systems integration and systems management activities.

- Network Solutions works with the Systems Management practice to identify potential outsourcing opportunities, orchestrate outsourcing arrangements, support client network migrations and identify new network environments to better meet clients' changing information technology requirements.

- AANet is Andersen Consulting's primary telecommunications vehicle for meeting its information needs. In addition, AANet is available to support network outsourcing services. The network spans North America and provides coverage to Europe as well as select regions of Asia.

- In addition, Andersen Consulting has formed alliances with INFONET Services Corp. and SigmaNet to penetrate areas AANet does not access.

- Andersen Consulting continues to develop its network services capabilities, reflecting the organisation's commitment to the network outsourcing market.

(ii) Industry Knowledge

Industry knowledge is one of the keys to Andersen Consulting's success, and to promote the use of technology within industry, Andersen Consulting has nine technology exhibits running in five "Business Integration Centres". For example:

- At one Business Integration Centre, Andersen Consulting has designed a minifactory (located in Chicago, IL) that displays CIM

techniques. The minifactory integrates the products from 35 different companies and produces an aluminium casting that holds a printed circuit board and plastic connectors.

Other technologies in the Chicago centre include expert systems, voice recognition, vision systems, Ethernet and MAP 2.1, personal workstations, touch screens, computer-aided design, computer-aided manufacturing, MRPII, group technology, robotics, material handling, cell control, computer numerical control and bar code data collection.

- A second Business Integration Centre, also located in Chicago, contains SMART STORE 2000, a show-case of Andersen Consulting's vision for the food pipeline process through the retailer. The exhibit incorporates state-of-the-art hardware and software applied by more than 40 participating vendors and addresses food industry management concerns about the future.

- Andersen's LOGISTICS/2000 exhibit, in Atlanta, demonstrates how the integration of technology can benefit a logistics organisation. It includes an automated warehouse and offices for sales and customer service, inventory management, transportation management, and executive management.

- Another Business Integration Centre, Hospital of the Future, represents Andersen Consulting's vision of the systems technologies that will support the health care delivery system of the 1990s. Located in Dallas, the exhibit will serve as a permanent site for Andersen Consulting and more than 20 participating vendors.

- Also located at the Dallas Infomart are Andersen Consulting - The Retail Place, The Factory, ACES, and GEO-PLUS. The Retail Place is Andersen Consulting's fully operational Quick Response retail store. The exhibit demonstrates how Quick Response establishes new business strategies, relationships and procedures to speed the flow of information and merchandise between retailers and vendors. The Factory is a working factory that shows manufacturing automation from order entry through distribution.

ACES is Andersen Consulting's Engineering Systems exhibit, highlighting imaging technologies and document management functions applicable to a manufacturer as well as a financial service, insurance or pharmaceutical company. GEO-PLUS demonstrates geographical mapping solutions.

In Europe, Andersen Consulting is particularly strong in the manufacturing - both discrete and process - and financial services sectors.

Andersen Consulting focuses its attention on the critical understanding of its client's industry, seeing each sector as subject to a unique combination of forces affecting business decisions. The Market Sectors it identifies with are:

Financial Services:

- Banking
- Capital Markets
- Insurance
- Asset Finance

Industrial and Consumer Products

- Automotive
- Aerospace & Defence Contractors
- Pharmaceuticals and Food Processing
- Oil and Gas
- Chemicals
- Electronics
- Retail and Wholesale Distribution

Government and Services

- European, National, Regional and Local Government
- Defence and Security Agencies
- Health care and Social Services
- Telecommunications
- Electric, Gas and Water Utilities
- Transportation and Hotels
- Leisure and the Media.

Across these markets there are a set of common management needs, recognised by Andersen as:

Financial Management

- Planning and Reporting
- Financial Control and Cost Management
- Treasury Management

Materials Management and Logistics

- End-to-end Pipeline Management

Sales and Marketing

- Sales and Market Analysis
- Customer Service Systems
- Database Marketing

Executive Information Systems

- World Class Management

(iii) Key Application Products

Andersen Consulting's key application software products are listed in Exhibit H.

Exhibit H

Andersen Consulting
Applications Software Products

Product	Description
MAC-PAC	MRP-II product linking plant automation and manufacturing software. Several other MAC-PAC packages run within this series for specialised applications such as defence contracting.
DCS/Logistics	Manages customer service and logistics functions.
PROCESS/1 industry	A production management system for process manufacturers.
PIOS	(Production and Inventory Optimisation System) On-line manufacturing control system acquired from McCormack & Dodge.
CELL-PAC	Factory floor cell control software.

MAC-PAC is an integrated, on-line distribution and manufacturing system that allows manufacturers to share information throughout their entire organisation. The entire flow of information can be defined and managed - from customer order to manufacturing, raw material purchase and distribution.

- MAC-PAC runs on IBM and compatible mainframes under DOS, MVS.

- There are currently more than 120 MAC-PAC installations.

· MAC-PAC/D is a specialised, fully integrated manufacturing enterprise management system for aerospace and defense contractors and other project-oriented manufacturers.

- The MAC-PAC/D family of products includes: MAC-PAC/D (manufacturing), IPD (engineering), PROCUREMENT/D (procurement), FACTORY MANAGEMENT/D (shop floor) and FINANCE/D (cost and financial).

- The products run on IBM and DEC mainframes. FACTORY MANAGEMENT/D also runs on DEC VMS and Hewlett-Packard open architecture platforms.

- There are currently 75 MAC-PAC/D installations.

MAC-PAC for the IBM AS/400 is a fully integrated, on-line manufacturing, distribution and financial system that operates in a single or multi-plant environment.

- The system supports discrete, just-in-time/repetitive, make-to-order, job shop or a combination of these manufacturing environments. Multi-language and multi-currency features are also included.

- There are currently more than 600 installations.

DCS/Logistics is an on-line, integrated system that supports the customer service, distribution and logistics management functions of medium-to-large manufacturing and distribution organisations.

- DCS/Logistics for the IBM System 370 has 14 application modules. DCS/Logistics for the VAX has nine modules.

- There are currently more than 175 DCS/Logistics installations.

PROCESS/1, introduced in 1991, is a fully integrated product for process industry manufacturers. The PROCESS/1 client/server

architecture supports multinational operations and provides features such as multi-currency, multi-language, and unit-of-measure conversion. PROCESS/1 is available for DEC VAX, VMS Systems.

Designware for FOUNDATION is a cross between packaged software and custom-developed systems applications that provides a jump start on application development. Designware offerings include:

- CUSTOMER/1, a customer information model for the utilities industry
- WORK/1, work order management designware for the utilities industry
- INVEST/1, for institutional investors creating securities accounting and management systems
- LIFE/1, a suite of products, including planware (software for information planning) and designware, that supports the policy administration needs of life insurance companies.

In order to get clients involved in software research and development, Andersen Consulting also operates ASSIST, a user's group of its applications software and development tools. ASSIST membership is open to any licensed user of Andersen Consulting software products world-wide.

Financial Information

Exhibit I

ANDERSEN CONSULTING four-YEAR REVENUE SUMMARY ($ Millions)

	FISCAL YEAR			
ITEM	1989	1990	1991	1992
Total Revenue	1,561.3	2,057.1	2,341.4	2,722.9
Annual Change		32%	14%	16%
Americas	934.4	1,153.0	1,226.4	1,383.0
Annual Change		23%	6%	13%
Asia Pacific	115.1	133.9	165.5	209.0
Annual Change		16%	24%	26%
Europe/ M. East/ Africa/India	511.8	770.2	949.5	1,130.9
Annual Change		50%	23%	19%

Of fiscal 1992 revenue growth, down on 1991's, 48% derives from Europe/Middle East/Africa/India, which contributes only 42% of the total revenue, and 11% from continued high rates of increase in Asia Pacific, which contributes 8% to revenue.

Market Analysis

Exhibit J

ANDERSEN CONSULTING four-YEAR SOURCE OF REVENUE SUMMARY world-wide ($ Millions)

	FISCAL YEAR			
	1989	1990	1991	1992
Financial Services	405.8	534.5	590.6	672.3
Annual Change		32%	10%	14%
Government	176.1	250.9	281.6	287.9
Annual Change		42%	12%	2%
Health care	55.4	53.2	70.2	77.5
Annual Change		(4)%	32%	10%
Products	692.3	907.2	985.4	1,122.6
Annual Change		31%	9%	14%
Telecommunications	87.1	107.4	136.0	192.2
Annual Change		23%	27%	41%
Utilities	83.7	124.0	184.7	260.3
Annual Change		48%	49%	41%
Other	60.9	79.9	92.9	110.1
Annual Change		31%	16%	19%

Telecommunications and Utilities together generated 35% of the growth for 1992 from only 17% of the total revenue.

A breakdown of 1992 revenue by country is given in Exhibit K

Exhibit K

Financial Analysis by Country 1992

COUNTRY	$M	PERCENT
U.K. 12.60		343.09
Spain	209.12	7.68
France	145.13	5.33
Italy	137.51	5.05
Germany	97.20	3.39
EMEAI Other	198.77	7.30
Asia Pacific	209.12	7.68
Americas	1,382.96	50.79
TOTAL	**2,717.91**	**100**

Note: EMEAI is the Andersen business unit covering Europe, the Middle East, Africa and India. Total revenues from U.K., Spain, France, Italy, Germany were $932 million, or 34.23% of the world-wide figure.

The following exhibits give INPUT's analysis of country, delivery mode and industry sector revenues.

Exhibit L

1992 Market Analysis by European Country

COUNTRY	$M	PERCENT
France	130	13
Germany	85	8
U.K.	310	30
Italy	125	12
Netherlands	9	1
Belgium/Lux'	18	2
Spain	189	18
Switzerland	23	2
Austria	9	1
Sweden	25	2
Denmark	10	1
Norway	10	1
Finland	5	0
Ireland	6	1
Portugal	33	2
Greece	0	0
Eastern Europe	10	1
Europe Balance	26	3
TOTAL INFORMATION SERVICES	**1,023**	**100**

Source: INPUT

Note: Numbers are rounded

Exhibit M

1992 Market Analysis by Delivery Mode

DELIVERY MODE	$M	PERCENT
Systems Software Products	20	2
Application Software Products	30	3
Turnkey Systems	0	0
Professional Services	535	49
Systems Integration	390	35
Systems Operations	45	4
Network Services	0	0
Processing Services	0	0
Total Software and Services	1,020	93
Equipment Services	0	0
Total Information Services	1,020	93
Equipment/Other Revenues	80	7
TOTAL EUROPEAN REVENUES	**1,100**	**100**

Exhibit N

1992 Market Analysis by Industry Sector

Industry Sector	$M	Percent
Discrete Manufacturing	165	16
Process Manufacturing	35	3
Transportation	20	2
Utilities	65	6
Telecommunications	15	1
Retail Distribution	60	6
Wholesale Distribution	80	8
Banking and Finance	325	32
Insurance	50	5
Health care	20	2
Local Government	20	2
National Government	120	12
Business Services	25	2
Systems Software Products	20	2
TOTAL SOFTWARE AND SERVICES	**1,020**	**100**

Source: INPUT

Note: Number are rounded

Company Strategies

(a) Company Direction

Andersen Consulting wants to gain and maintain position by being the pre-eminent provider of solutions to "top" organisations world-wide. The focus is strictly on partnering to provide solutions. Although not explicitly stated in the interview process, INPUT believes that Andersen Consulting sees itself as taking leadership as the "respected consultant/provider of strategic information systems".

From a business perspective, Andersen Consulting sees the revenue and profits from systems integration as a primary motivator for development of the business, along with control of account base and the need to respond effectively to existing and new customer demand. As would be expected, "dragging" hardware and follow-on facilities management contracts are not of primary interest, although the latter has become more important as competition with IBM and EDS becomes more intense.

The backbone of Andersen Consulting's marketing approach is its vertical business focus and business process orientation. The process is targeted at developing high-level business solutions and converting them into the application of information technology. Andersen Consulting was one of the first, and clearly is one of the

most successful, systems integrators to approach the "strategic systems" market. The Andersen Consulting "process" is at the heart of each project. Andersen Consulting understands the value of developing relationships with high-level managers in target firms and industries and very effectively utilises referral selling at these levels. Andersen Consulting's demonstrated capability of dealing with projects over $50 million makes it one of the few commercial systems integrators that can make that claim.

In addition, as part of its marketing process, Andersen Consulting has developed and utilises four Business Integration Centres which feature its product offerings. The Chicago, IL, centre for CIM and JIT manufacturing environments could be considered a "show-case" example.

Andersen Consulting's primary positioning with customers/prospects is to promote its ability to apply information technology to achieve competitive advantage. Andersen Consulting uses this consistent theme in combination with its in-depth vertical industry expertise to present itself as a number-one seller of business solutions. Andersen Consulting has invested heavily in recent years in developing its technological expertise. Though this is still not a primary positioning point, it certainly plays a role when presenting the entire package to the customer. INPUT believes these capabilities will become more significant in the future.

Finally, INPUT believes that Andersen Consulting enjoys a somewhat unique marketing position among leading systems integrators which is worthy of comment. Andersen Consulting frequently "writes" the RFP, at least in the figurative sense. Andersen Consulting's business consulting skills often give it entry to the prospect's environment long before a solution or even, at times, the problem, has been defined. Operating from a high-level position as a consultant and supported by the FOUNDATION methodology, Andersen Consulting has often closed the business before it has been opened. As a full-service provider, Andersen Consulting is a logical selection for implementor once the consulting is done. Exhibit O summarises Andersen Consulting's marketing strategy.

Exhibit O

Andersen Consulting Marketing Strategy

- Positioning: strategic systems, business expertise
- Vertical market focus for commercial marketplace
- Strong methodology
- Promotion: referral, technology centres
- Primary competitors: IBM, EDS, CSC

INPUT expects that Andersen Consulting will continue to develop partnerships with leading application software product vendors to gain access to the building blocks required for systems integration projects. Andersen Consulting will also endeavour to maintain a high level of capability in leading technologies such as imaging and artificial intelligence and will again use partnerships to achieve this aim.

As well as its traditional project capability, Andersen Consulting is targeting systems management opportunities. However the company professes a low level of interest in platform operations contracts unless these are accompanied by application development or business operations activity. Andersen Consulting is believed to be now targeting its business operations services at functions other than accounting such as personnel management and marketing.

(i) Consulting

INPUT believes that overall, Andersen Consulting has significant capabilities in the areas that are most important for winning and executing SI contracts. Its focus on the top end of the life cycle and perceived strengths in understanding business solutions in many industry sectors gives it an edge on the market that few others have.

Andersen Consulting's principal skills are in providing "front end" management consultant to clients and then following through with other IS professional services and complex systems integration projects to fully implement new information systems. Its management consultant capability centres on business integration - the inter-relationship of these four fundamental aspects of business:

- Devising both business and IT strategies in fast-changing markets.
- Planning, developing and implementing computer systems and networks with appropriate IS technology.
- Managing and controlling large computer centres and telecommunications networks.
- Managing the resulting changes and their impact on people within the business organisation.

The range of services Andersen Consulting offers includes:

Strategic Services:

- Strategic Planning and Studies
- Marketing and Sales Planning
- Competitive Studies
- Organisation Studies
- Total Competitiveness
- Information Planning.

Change Management Services:

- Organisation Change
- Human Resource Management
- Knowledge Transfer
- Technology Assimilation.

Integration Services:

- Strategy Integration
- Systems Integration
- Systems Management.

Strategic Services include analysing clients' marketplace and competitive position, identifying strategic alternatives, establishing a formal direction, and monitoring the execution of the strategy. Andersen Consulting assists in forming and managing the strategic planning process and providing marketing, competitive and organisational analyses, and conducting profit planning programs.

Systems Integration and Systems Management Services include total system solutions and assistance throughout the system's life cycle, including:

- Planning, design, application and systems software programming
- Procedures and computer-based training
- Hardware and communications acquisition and installation
- System management, system maintenance, project and systems management
- Implementation assistance, including a development methodology, productivity aids, customised packaged software, applications systems software programming, training and project management.

The Change Management Services practice of Andersen Consulting works with organisations to position people, processes and technology for maximum, continuous benefit. Using a practice methodology that encompasses designing, implementing and maintaining the changes made, each of three integrated service lines addresses the essential ingredients of change:

- The organisation (Organisation Change)
- The individual (Knowledge Transfer)
- The integrated use of technology (Technology Assimilation)

(ii) Geographic Coverage

Andersen Consulting is a major player in systems integration in both the U.S. and Europe. However two-thirds of the organisation's European revenues are derived from the United Kingdom, Spain and France. Andersen Consulting still needs to increase its presence elsewhere in Europe and in particular in Germany.

The firm is active in central and eastern Europe with German and Austria offices handling activity in Hungary and Czechoslovakia, and the U.K. office handling Poland and the U.S.S.R.

Andersen Consulting has 151 offices in 46 countries, including 75 offices in the Americas, 58 offices in Europe/Middle East/Africa/India, and 18 offices in Asia/Pacific.

(iii) Partnerships

Andersen Consulting has established some significant alliances that strengthen the firm's SI capabilities. As with most other major systems integrators, Andersen Consulting utilises both long-term and project-by-project alliances. Andersen Consulting believes that the use of alliances supports its strategy for SI by:

- Providing hardware at competitive prices
- Giving it early access to new technologies
- Providing assistance in financing projects
- Supplementing areas where it has limited internal capability, such as maintenance support and world-wide telecommunications.

The majority of its longer-term alliances have evolved from working with particular subcontractors or partners on a repetitive basis. Other alliances have developed as a result of Andersen's strategy to develop industry-specific software.

The alliances with hardware manufacturers - Hewlett-Packard, for distribution and marketing applications, and IBM - effectively support Andersen Consulting's thrust into financial and manufacturing markets. Andersen Consulting works with DEC as well. Exhibit P provides examples of Andersen Consulting's strategic alliances in systems integration.

Exhibit P

Andersen Consulting - SI Strategic Alliances (Limited Sample)

Product	Description	
Hardware Microsystems Instruments	IBM Hewlett-Packard Pyramid Technology DEC Tandem	Sun Texas AT&T Motorola
Applications Software Software	UCCEL/CAI MSA McCormack & Dodge SAP (Financial) Inference Corporation	IBM American
Systems Software	IBM AION (Expert Systems)	
Cooperative Marketing	Aetna (Insurance)	
Networking/ Telecommunications	Infonet	

A central Application Products Organisation markets and supports Andersen Consulting's software products, coordinates artificial intelligence and telecommunications centres of expertise in support of client projects, and operates a software intelligence group.

Andersen Consulting's Software Intelligence Group is responsible for gathering, evaluating and disseminating information on applications software products and vendors; working closely with software vendors to enhance their existing products; informing firm personnel of new applications software products, enhancements to existing products and software industry trends; helping clients benefit from the most current knowledge and most recent hands-on experiences of firm personnel who have worked with packaged software products; supporting firm professionals on client projects and developing methodologies and tools to help ensure successful implementation of applications software-based systems.

- The group has implemented a number of relationships with software products companies through the OASIS program. This program provides Andersen Consulting with in-depth knowledge of the products of key software companies such as Dun & Bradstreet Software Services, SAP, Quality Software Products, PeopleSoft and Lawson Associates. Andersen Consulting works on major projects implementing those companies' software products.

Andersen Consulting also maintains a number of partnerships to provide access to advanced technologies. For example in Europe, Andersen Consulting has partnerships with many of the leading imaging systems suppliers.

Other examples of alliances include:

- In 1991, Andersen Consulting allied with Microsoft to provide services to clients in developing client/server applications.

- In 1990 Andersen agreed with Xerox to provide its clients with products from the new Xerox DocuTech Publishing Series.

Andersen's Business Integration Partnership (BIP) program establishes and manages alliances with companies in order to combine systems and specialised services. Current partners under the BIP program include Amdahl, Apple, AT&T/NCR, BBN Software Products, Compaq, Dell Computer, Digital Communications Associates, DEC, FileNet, Foxboro, Grid Systems, Groupe Bull, Hewlett-Packard, IBM, Infonet, Informix, Microsoft, Norand, Novell, Palette Systems, Plexus, Pyramid, Sun, Sybase, Symbol, SynOptics Communications, Systems Centre, Tandem and Toshiba.

(b) Strengths and Weaknesses

Andersen Consulting has an excellent overall image as a systems integrator. Strengths include its ability to manage the client's planning process, the resources to handle very large projects, and its focus on professional services. Its on-going investments in key applications software products and the continued development and education of its professional staff will continue to build the positive momentum it has in the marketplace.

Not to be overlooked on the positive side is Andersen Consulting's ability to formulate client requirements. Focusing on the high end of the life cycle, Andersen Consulting frequently "writes" the RFP, so to speak - a position that many of its competitors should envy.

The result is a very high success rate in winning contracts, which minimises marketing and bid preparation costs.

Andersen Consulting has a full in-house capability at the high end of the development life cycle, and also as might be expected, makes heavy use of alliances in the areas of systems software, hardware, custom and communications hardware, and hardware maintenance.

Business Consulting, Design and Project Management is the area of Andersen Consulting's strength. The combination of a solid methodology along with uniform and effective training of its personnel produces consistent, if not always exceptional results. Consistent with the professional services orientation of the firm, education, training, and documentation are also significant skills that it markets heavily as part of its capabilities.

Packaged Applications Software is clearly an area of strength for Andersen Consulting. It has made significant investments in the development of numerous packages. The aggressive marketing of these packages, along with the development and utilisation of strong alliances to fill the gaps, gives Andersen Consulting a very strong position within its competitive group in the applications software area.

Andersen Consulting's strengths far outweigh its weaknesses as a systems integrator. In fact, its strong set of capabilities in the high end of the life cycle serves to reduce significantly its dependencies on outside suppliers for the high-risk elements of most SI contracts. Its strengths in software development, project management and packaged systems and applications software have contributed measurably to the firm's success. The weaknesses in service and repair and, to some degree, design integration, are not critical to success in the business, particularly in the vertical markets where Andersen Consulting has focused.

In those areas where Andersen Consulting might be perceived as being weak, there are plans in place.

- The inherent problem with the decentralised partnership profit centre structure is being addressed by the recent round of reorganisations.
- The "by the book" (perceived by some as overly structured) approach to design and engineering is fading as higher-level and better-trained consultants enter the SI practice.
- A weak technical image is being overcome by heavy investment in proprietary technology.

The future looks bright for Andersen Consulting. INPUT expects its market approach to become more aggressive as the reorganisation of the consulting activity falls into place. INPUT anticipates increased focus on Europe and Asia. In addition, the market can anticipate further heavy investments by Andersen Consulting in technology to support both vertical and, to a lesser extent, cross-industry markets.

(d) Conclusions

Andersen Consulting's strengths include contacts at the vice-presidential or presidential level at customer companies. In fact, each IS partner is expected to be able to contact senior officers at their top accounts. In addition, Andersen Consulting offers extensive in-house staff training and has a strong service-oriented culture. Andersen Consulting has developed a variety of strong third-party hardware and software vendor relationships to support it in its information services consulting business.

INPUT does not believe that Andersen Consulting has any significant weaknesses. However, some problems do exist. First, Andersen Consulting's partnership culture has traditionally worked against change. However, recent developments within the organisation are likely to minimise the effect of this problem. Second, Andersen Consulting's approach to systems integration has been heavily business-process-oriented. Top down in nature, the approach is not suitable for every client. Finally, Andersen Consulting's strengths in the international component of the IS/SI market have significantly lagged behind the U.S. operation's. However, Andersen Consulting is rapidly building these capabilities. Exhibit Q summarises INPUT's assessment of competitive strengths and weaknesses as they apply to the systems integration business.

Exhibit Q

Andersen Consulting's Competitive Status

SI Strengths	SI Weaknesses
High-Level client contracts	Partnership culture
In-house training capability	Process orientation
"Professional service culture"	Limited European coverage
Strong third-party relationships	

Overall INPUT expects Andersen Consulting to remain one of the major players in the systems integration market. The key determinant of success in much of the systems integration market is the vendor's credibility in business consulting with senior executives. In this respect, Andersen Consulting has successfully differentiated itself from its major competitors.

Andersen Consulting has been one of the most phenomenal knowledge-related businesses of the last 20 years. Revered at one moment by its competitors in the information services marketplace, and not taken seriously at others, the consulting operation has consistently shown significant growth rates and defeated the competition on a regular basis.

(e) Strategic Assessment - Andersen Consulting

Andersen Consulting is the one Big Six accounting company that has achieved really significant inroads into the computer-related professional services business. This reflects a long held management orientation and culture emphasising the wider business issues faced by its audit clients and dates back to its founder Arthur Andersen.

During the 1980s Andersen Consulting itself was set up as a separate organisation in an attempt to resolve the ever present 'partner' related conflicts in its business. During this time Andersen developed significant presence in addressing the systems integration needs of clients firstly in the U.S. and subsequently in Europe. However Andersen Consulting's partner structure has led to a patchy performance across European countries and its strong reliance on marketing relatively low-level information systems personnel impacted its performance during 1991 in some countries including the U.S.

Andersen Consulting has pursued the logic of its business approach into the area of systems operations or 'outsourcing' only to run up against increased needs for partner commitment for capital and a need for 'process' as opposed to 'project' skilled people.

AT&T ISTEL LIMITED
Grosvenor House
Prospect Hill
Redditch
Worcs B97 4DQ
Tel: 0527 64274
Fax: 0527 62399

Chairman & Chief Executive: Peter Teague
Status: Subsidiary of AT&T
Number of employees: 4,000
Revenue: (FYE 31-12-92) £235 million

The Company

Istel started life in 1979 as BL Systems Ltd. It was formed from the IS department of British Leyland, creating an organisation dedicated to computing, communications and systems services. The company was wholly owned by British Leyland (and subsequently the Rover Group).

The company adopted the name Istel in 1984. In June 1987, a management-led employee buy-out from the Rover Group took Istel into the private sector. In November 1989 the company was acquired by AT&T, the largest telecommunications company in the U.S., and adopted the name AT&T Istel in March 1990.

Today AT&T Istel employs over 4,000 staff in Britain, the U.S., Belgium and Germany.

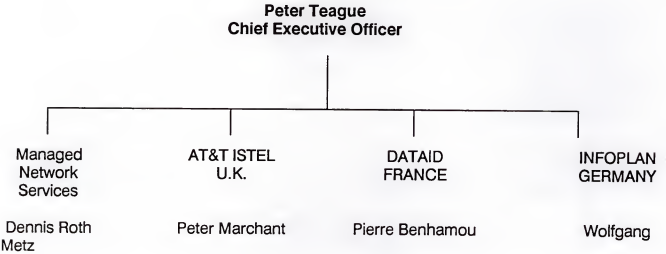
AT&T Istel is one of the major information technology services companies in Europe and in 1992 its turnover exceeded £200 million serving public administration and the industries of manufacturing, financial services, health care, travel and aerospace. Its managed network covers Europe.

Organisational Structure

The overall organisational structure of AT&T Istel is shown in Exhibit A.

Exhibit A

AT&T ORGANISATIONAL STRUCTURE



Acquisition History

AT&T Istel plans to grow its revenue to ú1 billion within five years and by the end of the century it expects to be in the top three European IT services companies, which means growing to £1.5 billion.

One of the measures put in place to achieve this impressive growth was the establishment in 1991 of the European Development Group. Its task is to ensure that the company is positioned to achieve revenues from non-U.K. sources of £500 million by the end of 1995. The aim is to create a significant presence in continental Europe in the financial services, manufacturing and health care sectors.

Initially the growth will be achieved through an acquisition-led strategy. The primary target countries will be Germany, for manufacturing systems, and France, for financial services. These two countries have been selected because they account for half the total IT software and services in continental Europe.

In 1992 the U.K. operation had 1,700 employees and revenues of £132 million.

AT&T Istel has made several important acquisitions in the U.K. over the years, but in 1991 it made its first acquisition in continental Europe with the purchase of Infoplan in Germany.

Infoplan, based in Cologne - with offices in Stuttgart and Jena, is a software house with a 1991 turnover of DM 45 million that employs some 180 people. The main areas of specialisation are computer-integrated-manufacturing, production planning and control, facilities management and consultancy.

In March 1992, Infoplan was joined by CAB-Computeranwerndungs-Beratung GmbH. CAB is a software house specialising in providing applications programs, primarily based on the UNIX operating system. It also provides associated services, including bespoke developments and training to manufacturing industry. The UNIX connection suits Istel's AT&T parentage, and complements other areas of AT&T Istel that also specialise in developing systems using this platform. CAB's revenue in 1991 was DM 20 million and the head-count was 100. It has offices in Essen, Herrenberg and Vienna.

In 1992 AT&T Istel acquired the French company Dataid, a major supplier of IT services with 1,500 employees and a turnover of approx £70 million. The company has an established presence in the French outsourcing market. Overall, Dataid specialises in professional services, facilities management and industrial, scientific and technical systems.

Other acquisitions in 1990 and 1991 include:

- Computer Systems Development (CSD) - a vendor of production management software products for the discrete manufacturing sector
- Daton Systems Ltd - a Unix-based systems house
- WP Associates - a supplier of Oracle-based applications
- Chorus Software - a supplier of financial accounting software.
- Belmin Systems of Bridgwater, Somerset, a software house specialising in providing purchasing systems for local and central government agencies.
- Qa Business Services, which had a three and a half year contract to run a major data centre for the West Midlands health authorities and the waiting list project for the NHS.

Recent Major Projects

AT&T Istel's major systems integration projects tend to lie in the manufacturing sector, particularly in the automotive sector, where AT&T Istel has designed and implemented many of the production management and shopfloor systems supporting its former parent's - the Rover Group - manufacturing activities. The company has also won a number of contracts of this type outside the Rover Group. Examples of such projects include:

- the provision of a fully integrated system for manufacturing, planning and control for McVities
- the provision of a production monitoring system for Wiggins Teape.

AT&T Istel estimates that it holds 55% of the available outsourcing market in the U.K. health sector.

The company has major contracts with Trent RHA and West Midlands RHA, as well as with a wide range of District Health Authorities.

Products and Services

AT&T Istel's major offerings include the following:

- A wide and constantly growing range of value-added and data services.
- A pan-European managed network service, recently announced by AT&T, which will be supplied through AT&T Istel. The first European Network Management Centre has been built at Istel's headquarters in Redditch.
- Computer-Integrated Manufacturing skills throughout the U.K.
- The Infotrac network, which is one of the largest private data networks in Europe and carries some 3 million user sessions each month.
- Application development and project management.
- The Witness simulation system, which is designed to be used by non-computer staff, and is the decision support system used in many industries.
- Network services to the travel industry which are used widely in the U.K., carrying over 70% of the holidays booked electronically.

- AT&T Easylink Services, which brings together the messaging skills of AT&T, AT&T Istel and Western Union. The unit offers electronic data interchange, electronic mail and other enhanced messaging services, such as AT&T Enhanced Fax, on a global basis.

- Applications and communications links that enable banks and retailers to complete the entire circle of trading links by allowing stores (from electronic point of sale), head office, suppliers and banks to exchange sales and financial data electronically.

- The management of computers and networks for users - systems operations. AT&T Istel's experience covers managing and maintaining voice and data networks, and running facilities with IBM, DEC and ICL hardware. The customer base includes the automotive manufacture and health care sectors, household goods manufacturers and distributors, retailers, financial agencies and database providers.

The Communications and Data Centre, from which many of the company's services are provided, is one of the most advanced and sophisticated in Europe with more than £30 million worth of computer and communications equipment.

Financial Information

Exhibit B provides a five-year financial summary for AT&T Istel

Exhibit B

5-YEAR FINANCIAL SUMMARY (FYE 31-12), AT&T ISTEL
(UK Millions)

YEAR	1988	1989	1990	1991	1992
Revenues	85	109	130	173	235
Annual Growth Rate (Percent)	23	28	19	33	36
Profit Before Tax	8.0	N/A	N/A	N/A	N/A
Annual Growth Rate	60	-	-	-	-
Revenues per employee (£000's)				64	59

Exhibit C

1991 MARKET ANALYSIS BY INDUSTRY SECTOR

INDUSTRY SECTOR	REVENUES (£M)	PERCENT
Rover Group	40	23
Manufacturing	30	17
Finance & Retail	30	17
Health	25	14
Travel	12	7
Other Automotive	5	3
Cross Industry	31	18
TOTAL	173	100

Source: AT&T Istel

Note: Numbers are rounded

Exhibit D

1991 MARKET ANALYSIS BY PRODUCT

PRODUCT	REVENUES (£M)	PERCENT
Computer Applications Processing	50	29
VADS	45	26
General Systems	40	23
Systems & Consultancy	38	22
TOTAL	173	100

Source: AT&T Istel

Exhibit E

1992 REVENUE ANALYSIS BY GEOGRAPHY

COUNTRY	REVENUES* ($ Millions)	PERCENT
France	125	34
Germany	35	9
U.K.	205	55
Total Information Services	370	100

*INPUT estimate

Note: Numbers are rounded

Market Analysis

Exhibits F and G provide estimates of the company's revenues broken down by delivery mode and INPUT's industry classification.

Exhibit F

1992 MARKET ANALYSIS BY DELIVERY MODE

DELIVERY MODE	REVENUES ($ Millions)	PERCENT
Application Software Products	22	6
Turnkey Systems	37	10
Professional Services	32	9
Systems Integration	19	5
Systems Operations	141	38
Network Services	100	27
Processing Services	19	5
Total Software and Services	370	100

Exhibit G

1991 MARKET ANALYSIS BY INDUSTRY

SECTOR	REVENUES ($ Millions)	PERCENT
Discrete Manufacturing	111	30
Process Manufacturing	55	15
Retail Distribution	15	4
Wholesale Distribution	18	5
Banking and Finance	22	6
Insurance	30	8
Health care	63	17
Local Government	7	2
National Government	22	6
Business Services	22	6
Other Industries	4	1
Total Software and Services	370	100

Company Strategies

(a) **Company Direction**

The company's mission is to become one of the top three European-based IT services companies. This requires a major and rapid expansion outside the U.K., particularly within continental Europe.

AT&T Istel has very aggressive growth targets. During 1992 the company was targeting growth in software and services from $275 million in 1991 to reach $2.2 billion by 1996. By this time, AT&T Istel planned to be one of the top three software and services vendors in Europe, alongside EDS and Cap Gemini Sogeti.

Difficult trading conditions were experienced in 1992. The mission remains unchanged except that the company no longer specifies the year in which it will be achieved.

The growth will be achieved through a combination of acquisitions and the sale of AT&T Istel's products and services in the wider European market.

In terms of services the company's emphasis is increasingly on network services and distributed open systems environments. The recent launch of AT&T Istel's pan-European managed network service is seen as providing a vital component of the infrastructure necessary to address these opportunities. In addition the company is keen to promote its outsourcing offerings, where the emphasis will in future be placed on network management and managing companies' transitions to distributed open systems environments.

AT&T Istel is committed to providing differentiated services in a number of key markets, including manufacturing, health care, travel, finance and retail.

(i) Consulting

AT&T Istel has in the past tried to market its consultancy skills in the manufacturing sector and in network consultancy. However both these initiatives faltered.

(ii) Partnerships

AT&T Istel has a tendency to acquire application software product vendors in support of its activities rather than adopting the more fashionable approach of establishing partnerships.

Key products include:

Manufacturing Sector:

- Processmarc - production management for the process manufacturing sector
- Impcon - production management for the discrete manufacturing sector
- Tracker - shopfloor data collection
- Tardis - time and attendance recording
- Witness - simulation
- AIM-Supervisor - SCADA for the process manufacturing sector
- Storeman - tooling control system.

Other Sector:

- Chorus financial software.

(b) Strengths and Weaknesses

The company's current strengths are summarised in Exhibit H.

Exhibit H

STRENGTHS - AT&T ISTEL

STRENGTHS
Established pan-European network infrastructure
Commitment to open systems
CIM Expertise
Financial resources of AT&T
Established outsourcing vendor

AT&T Istel has a major strength in networking and expects to become increasingly involved in network management utilising its fast developing pan-European networking capability.

Commitment to open systems - as part of AT&T, Istel has a policy of migrating all of its products which formerly ran under proprietary operating systems to run under Unix.

Another of the company's strengths is its computer-integrated manufacturing expertise gained through its association with the Rover Group.

To support its acquisition strategy AT&T Istel claims to have the necessary financial backing from its parent to achieve its goals and evidence of this is seen in the recent acquisition of Dataid.

AT&T Istel at year-end 1991 had approximately 30 outsourcing contracts with a total value of $80 million per annum, a quarter of the company's total revenues. The company has a number of major contracts and has a strong presence in the outsourcing market, particularly in the Health sector, where it estimated that it held 55% of the available market.

(c) Conclusions

Overall, the main strands in the company's development towards its goals are:

- A move towards pan-European coverage by acquisition.

- Continued development of the European network, seen as an essential part of the infrastructure required for wide area distributed systems particularly when targeting multinational corporations.

- Increased targeting, possibly in conjunction with NCR in Europe, of the financial and retail sectors, and of the manufacturing sector in Germany.

- A major marketing campaign to increase prospect awareness of AT&T Istel, followed by greater emphasis on account management and the long-term targeting of specific major organisations.

- Building up of AT&T Istel's open systems development capability and application portfolio to provide the building blocks for a drive towards Information Systems Management.

(d) Strategic Assessment

AT&T Istel has a strategy of increasing its geographical coverage, which has significantly expanded its range of products and services through the acquisition of companies in the U.K. With the emphasis now on growth in Europe, one of the challenges for the company is to mirror its U.K. success in the wider European market. The company hopes to increase its revenues to £1 billion "over the next few years" and obviously this level of growth can only be achieved by an aggressive acquisition policy. Perhaps, the scale of the acquisition programme needs to accelerate to meet the company objectives.

In terms of future direction, AT&T Istel is likely to endeavour to increase its outsourcing market penetration in its other target sectors, particularly the financial and retail sectors. Indeed, creating some synergy with NCR could increase AT&T Istel's presence in these sectors.

COMPANY PROFILE

AXONE SA
Immeuble Central IV
1 avenue Montaigne
93167 Noisy-Le-Grand Cedex
France
Tel: +33 1 49 31 67 00
Fax: +33 1 45 92 03 00

President: Serge Vigier
MD: Gérard Jousset
Status: Subsidiary of IBM
Number of Employees: 1,300
Revenue (FYE 31-12-92): FF 415 million

The Company

Axone was founded as a joint venture between IBM, Sema Groupe and Paribas, in 1987. IBM held 50% of the shares. In April 1993 it became a wholly owned subsidiary of IBM France, which contributed its own systems and telecommunications network to the company.

The company operates only in France and has three main business areas:

- Systems operations (facilities management)
- Value-added network services including electronic data interchange (EDI)
- Disaster recovery services.

It claims IBM, Digital, Bull, and Unisys operating expertise.

Financial Information

Exhibit A

FOUR-YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1989	1990	1991	1992
Revenue	135	190	323	415
Annual Growth Rate (%)	111	41	70	28
Net Profit		2.8	5.5	21

Source: Axone

Market Information

All 1992 revenues were generated within France.

Exhibit B

1992 MARKET ANALYSIS BY DELIVERY MODE, AXONE (FF MILLIONS)

BUSINESS AREA	REVENUE	PERCENT
Systems operations	240	58
Processing services	85	20
Network services	55	13
Professional Services	35	8
TOTAL	**415**	**100**

Source: INPUT estimates

Key Products and Services

Axone provides three main categories of service:

- Facilities Management
- Network services
- Disaster recovery services.

Facilities Management

This is the largest component of the company's revenues. Offerings cover different levels of service including:

- Production FM, (System Operations) which does not include software engineering.
- Complete FM, (System Management) which includes software development and maintenance.

Axone has 36 (own and client) computer sites, with hardware from IBM, DEC, BULL, UNISYS and UNIX platforms, providing total processing power of 4,000 MIPS in 1993. (Compared with 400 MIPS in 1992, before the 100% participation of IBM France.)

Network Services

Axone offers services based on:

- The Axone national network linking the main French towns
- The IBM Information Network covering 91 countries
- France Telecom and Transpac offerings
- Other comms systems (e.g., Minitel, computer networks and LANs.)

Offerings include:

- EDI applications in the field of technical drawings and other data for manufacturing
- Development and implementation of Minitel applications
- Network management services.

The company claims to be handling 80,000 users across over 150 user networks. One of its major contracts is to manage the IBM France network and its users.

Disaster Recovery

Disaster recovery services are also offered at a number of different levels, for IBM S390 and AS 400 machines. Axone claims market leadership in this area.

Offerings include:

- Services to allow users to formulate and maintain a Disaster Contingency Plan, leading to the possibility of users adopting one of the following service lines:
- A service based on an Activity Restart Plan (effectively a 'warm' restart procedure with a 'cold' restart - salle blanche - facility to back it up)
- A service based on an Uninterrupted Operations Plan (effectively a 'hot' restart offering immediate or almost immediate cut-over to an AXONE supported configuration in the event of a disaster)

Besides IBM itself, AXONE has major customers in the Transportation, Banking, Automotive and Insurance sectors.

Company Direction

The company now has access to significant resources through its ownership by IBM. It presents itself as now being able to respond to client need by offering IBM consultancy, education and SI capability. Significantly IBM's Information Network - which operates in 91 countries - allows for an approach to clients with international communications requirements.

The company is forecasting very high growth: in July 1993 it expected revenue for the year to be FF 1 billion. In terms of staff, growth is the order of the day, as some 900 IBM staff were transferred in 1993 to Axone.

BORLAND INTERNATIONAL, INC.

1800 Green Hills Road
P.O. Box 660001
Scotts Valley, CA 95067-0001
USA
Tel: 1 408 438 8400
Fax: 1 408 438 8696

President: Philippe Kahn
Status: Public
Number of Employees: 1,600 world-wide
Revenue: (FYE 31-3-93) $463.9 million
European Revenue: $200 million

European Headquarters
Borland Europe SARL
2 Rue Maurice Hartman
92130 Issy Les Moulineaux
France
Tel: 33 1 46 29 36 40
Fax: 33 1 41 2311 90

The Company

Borland is one of the world's largest personal computer software companies. A pioneer in the use of object computing technology, Borland's mission is to build the finest quality software products that enable the customer to access, manage and analyse data, and build mission-critical applications to run businesses.

Founded in 1983 in the U.S., the company went public on London's Unlisted Securities Market, and established a European headquarters in Paris. The initial public offering on the U.S. NASDAQ exchange came in December 1989.

With its acquisition of Ashton-Tate Corporation in October 1991, Borland is now one of the industry's largest personal computer software companies and supplier of database software. Currently there are Borland operations throughout the U.S., Europe, Asia, the Pacific Rim and Canada, and distributors carrying Borland products in Mexico, Central and South America, Eastern Europe, the Middle East and Africa.

Borland believes that advances in computer hardware, user interfaces and networks will revolutionise computing and that the best way for the user to take advantage is with a client/server solution with object-oriented applications and development tools. To this end, the company has formed a client/server division to provide best-of-breed products in each area, while embracing open standards, thereby allowing customers to "mix and match" products to best meet their needs.

Underlying each product is the strength of Borland's Object Component Architecture (OCA). This innovative strategy not only unites desktop products into a strong integrated information resource but provides the foundation to move into the era of Client/Server Computing. At the heart of this architecture lies the Interbase Engine which ensures interoperability among Borland products including Paradox, dBASE, Quattro Pro and Borland C++. These factors make its software products a vital component of many businesses across a broad cross section of industries world wide.

Borland's product line includes:

PC Databases

Paradox has become Borland's biggest seller, with a 30% share of the database market in the U.S. Paradox 4.0 is available as a standard package, and network versions are also available. Paradox SQL link provides users with easy access to corporate data stored on a wide variety of computer equipment.

Borland also offers Paradox Engine, a programming tool that enables developers to integrate sophisticated database file access to custom software applications. Paradox for Windows fully exploits the event-driven nature of the Windows environment, facilitated by Borland's leading object-oriented development techniques, and incorporates features normally only found in expensive high-end databases. It features support for full referential integrity, a comprehensive forms and report design environment, and excellent support for text, graphics, multimedia, and object linking and embedding.

Borland has recently released version 2.0 of its popular dBASE IV database management system, which offers performance improvements of up to 10 times over previous versions of the product, as well as a number of new features.

Server Database

Borland's UNIX-based InterBase server, widely recognised as the most advanced server, is rapidly becoming the server of choice for such transaction-intensive industries as brokerage, banks and manufacturing.

IDAPI Connectivity

Borland's connectivity strategy extends to all major databases, from Oracle to Sybase to DB2 to provide a seamless, integrated data management system. Borland is currently working with IBM, Novell and WordPerfect, plus over fifty other companies who have joined the IDAPI (Integrated Database Application Programming Interface) initiative, to extend IDAPI's connectivity to all the components in a company's enterprise.

Languages

Borland provides the most complete line of development products for both professional developers and end-users.

Spreadsheets

Borland's Quattro Pro spreadsheet offers a high level of compatibility and productivity when used in conjunction with dBASE or Paradox. Quattro Pro can also be used as a powerful front end for NetWare LANs and SQL servers.

Borland Office for Windows is the first software suite to combine the three best-selling categories of PC software - word processing, spreadsheet and database - and will include WordPerfect for Windows, Quattro Pro for Windows and Paradox for Windows. It also marks the first time two major software companies have combined products into a single package.

Borland's philosophy is to help users achieve cost saving by producing the most cost effective, finest quality products in the industry.

Borland's sales for fiscal 1993 (ended March 31) were in excess of $463 million. The fiscal year earning reflect the introduction of Paradox for Windows and dBASE IV version 2.0 in the fourth quarter. Sales of Borland products for the growing Windows marketplace accounted for more than half of the company's fourth quarter revenues. Borland employs 1,600 people world-wide.

Organisational Structure

Borland's organisation is unusual in that product development is kept separate from product management and marketing. All the development groups report directly to Philippe Kahn, while the product management organisations are divided into business units.

Borland is organised into two business units:

- Desktop products
- Client/Server

Borland International's Key Executives are listed in Exhibit A.

Exhibit A

KEY EXECUTIVES

Philippe Kahn	Chairman, President and CEO
Alan Henricks	Senior VP: Finance and Operations; Chief Financial Officer
Doug Antone	Senior VP: Worldwide Sales
Spencer Leyton	Senior VP: Business Development
Richard Schwartz	Senior VP: Technology; Chief Technology Officer

Acquisition History

In September 1987, Borland acquired Ansa Software, developer of the Paradox relational database management program.

In October 1991, Borland acquired the Ashton-Tate Corporation and access to its large installed base of dBASE users.

In December 1992 Borland acquired dBASE-compatible technology, Arago, from WordTech Systems, Inc.

Key Products and Services

Borland's applications offerings include Quattro Pro, Borland's best-of-breed spreadsheet, and the Sidekick personal organiser range. Quattro Pro is seen as a rival to Lotus' 1-2-3 spreadsheet.

Quattro Pro 3.0 was released in 1990 and quickly began gaining market share. The new program was widely hailed for its display, powerful capabilities, extensive database and network support, and exceptional performance on less powerful computers. In February 1992, Borland released Quattro Pro 4.0. The new version combines powerful push-button power with advanced analytical tools so users can evaluate complex spreadsheet relationships more easily. Speed-bar controls provide immediate access to commonly-used functions, macros and commands. A Windows version of Quattro Pro was launched in September 1992.

The Sidekick personal organiser was launched in 1984 and Sidekick plus in 1988, as companies increasingly moved to desktop management software for time and task management. Borland also offers Sidekick PM, its presentation management version. An updated version of the product - Sidekick 2.0 - was designed in 1991 to interface with both electronic and paper-based organisations.

Languages

dBASE, Borland's industry standard relational database management system, as well as Borland's highly successful development tools including Turbo Pascal and Turbo Pascal for Windows, the Borland C++ family of products, and ObjectVision for Windows comprise the Languages Division.

In March 1992 Borland released dBASE IV version 1.5 for DOS, a powerful new version of its widely used database management system. The new version features mouse support, faster QBE (Query-By-Example) performance, increased work areas and an open architecture. The new version is Borland's first step in its commitment to the dBASE community. Borland continues to enhance dBASE with new versions and new capabilities, the latest being Version 2.0 released in May 93 along with a dBASE compiler for DOS.

In 1988 Borland targeted professional programmers with Turbo Pascal Professional, Turbo C Professional and Turbo Assembler & Debugger. Today, Borland offers a variety of new-generation programming languages for professional developers, including Turbo C++ 3.1, Borland C++ 3.1, Borland C++ with Applications Frameworks 3.1, Turbo Pascal 6.0, Turbo Pascal 7.0 (for entry level programmers to learn object orientation) and Pascal with Objects 7.0 (for professional developers). Borland also

provides versions of these products specifically designed for the Microsoft Windows environment.

In 1991, Borland introduced ObjectVision, an object-oriented visual programming tool that allows non-technical users to easily create custom Windows applications without writing a line of code. In June 1992, Borland released ObjectVision 2.0 for OS/2 2.0 and in September 1992 Objectvision Pro 2.1 for Windows.

Paradox

The Paradox division offers Paradox, a database system acquired with Ansa software in 1987. In just four years after the acquisition, Paradox became Borland's biggest seller and captured 20% of the database market.

Today Paradox 4.0 is available as a standard package; Windows and network versions are also available.

Paradox SQL link is a communications product that provides users easy access to corporate data stored on a wide variety of computer equipment. The latest version, Paradox SQL Link 1.1, provides additional connection to SYBASE SQL Server, the relational database management system from Sybase Inc.

Borland also offers Paradox Engine, a programming tool that enable developers to integrate sophisticated database file access to custom software applications. The latest version, Paradox Engine 2.0 was released in March 1991.

Interbase

The InterBase division is focused on developing and marketing Borland's InterBase server which it acquired with Ashton-Tate.

The InterBase Server is a relational database server that runs across multi-vendor networks in UNIX and VAX/VMS environments. InterBase is built on a multi-generational architecture that provides support for managing large amounts of complex data such as text, image and sound through BLOBs. InterBase also offers capabilities including true peer-to-peer architecture, highly efficient event alerters and "smart" automatic, two-phase commit and rollback.

In March 93 Borland confirmed its commitment to the Novell NetWare operating system through the formal announcement of development of the InterBase relational database server as a NetWare Loadable Module (NLM) for NetWare 4.0, Novell's next generation of industry-leading NetWare technology. The InterBase

NLM server has been designed to offer high-performance database functionality for NetWare 4.0 networks.

In February 1993 Borland also introduced Borland C++ for OS/2, an object-oriented development tool for 32-bit, OS/2 applications. Borland C++ rounds out the company's cross platform strategy by providing developers with a fourth-generation, award-winning C++ compiler for the Presentation Manager environment.

Borland C++ for OS/2 offers all of the tools necessary to develop OS/2 2.0 applications using C or C++. Borland C++ for OS/2 shares a common heritage with Borland C++ 3.1 by including a number of powerful features such as a graphical user interface (GUI) based integrated development environment (IDE), global optimization, support for C++ 3.0, object-oriented debugging, precompiled headers, the ability to transfer to user-defined programs and tools, and smart project management.

Financial Information

Exhibit B

Borland International Consolidated Revenues
five-year Financial Summary (FYE 31-3)

	1989	1990	1991	1992	1993
Revenues ($M)	397.8	378.6	457.3	482.5	464
Annual Growth rate (%)	14	(5)	21	6	(4)
Profit before Tax ($M)	66.3	(16.7)	17.9	(124.5)	(40.7)
Annual Growth rate (%)	(18)	(125)	207	(795)	67
Profit after Tax ($M)	41.3	(16.6)	4.8	(110.4)	(49.2)
Annual Growth rate (%)	(7)	(140)	129	(2,400)	55

Note: Numbers are rounded

Fiscal 1993 quarter four and year-end results reflect the introduction, in the quarter, of Paradox for Windows and of dBASE IV Version 2.0. With the release of Paradox for Windows and the sales of Quattro Pro for Windows and of Borland C++, more than half Borland revenues in the fourth quarter derived from products for the Windows market.

Market Analysis

Exhibit C

Market Analysis by Geographic Region 1992, 1991 and 1990 ($ millions)

	1992		1991		1990	
Geographic Region	Revenues	Percent	Revenues	Percent	Revenues	Percent
U.S.	246.1	51	228.6	50	189.3	50
Non-U.S.	236.4	49	228.6	50	189.3	50
Total	**482.5**	**100**	**457.3**	**100**	**378.6**	**100**

Source: Borland

Note: Numbers are rounded

Input estimates that Borland International's European revenues fell to $190 million in 1992.

Exhibit D

1992 MARKET ANALYSIS BY COUNTRY MARKET
EUROPEAN SOFTWARE & SERVICES ($ MILLIONS)

COUNTRY	REVENUE	PERCENT
France	30	16
Germany	60	32
U.K.	40	21
Italy	20	11
Netherlands	9	5
Belgium/Lux'	5	3
Spain	8	4
Switzerland	8	4
Austria	4	2
Sweden	5	3
Denmark	3	2
Norway	2	1
Finland	2	1
Ireland	1	1
Portugal	1	1
Greece	1	1
TOTAL INFORMATION SERVICES	**190**	**100**

* INPUT Estimates

Note: Numbers are rounded

Exhibit E

1991 Market Analysis by Input delivery mode
European Software and Services

DELIVERY MODE	REVENUE ($M)	PERCENT
Systems Software Products	190	100
TOTAL	**190**	**100**

* INPUT Estimates

Company Strategies

(a) Company Direction

Advances in computer hardware, user interfaces and networks offer the potential for better information management systems than ever before. Therefore managing information in the 1990s will provide unparalleled opportunity and challenge for corporate IS. Borland believes that these technology developments will revolutionise computing and that the answer is the client/server solution with object-oriented programming.

So Borland has formed a client/server division responsible for research, development and marketing of Borland's client developer tools, middleware and server products in client/server configurations. Headed by Rob Dickerson, the aim of the division is to provide best-of-breed solutions in each area, while embracing open standards, thereby allowing customers to "mix and match" products to best meet their needs.

Products to be managed by the client/server division include the InterBase server; upcoming SQL link products for Windows and current SQL links for DOS; IDAPI middleware and client developer kits based on desktop products such as Paradox for Windows and products under development, such as dBASE for Windows.

The client/server market is expected to grow substantially in the years ahead, according to leading market analysts.

Borland anticipates that the client/server market will grow at an annual compound growth rate of 70% from 1992 through 1996.

Client/server information systems tap into the power of distributed computing and take advantage of the available power from the desktop to the mainframe. Therefore, approaches which fully utilise new hardware and software are required.

Borland's object-oriented client/server approach and BOCA (Borland Object Component Architecture) provide end users and application developers with an integrated, distributed application solution which spans from the PCs to proprietary mainframes. BOCA gives users tremendous productivity, reliability and usability advantages with its object-oriented tools. InterBase, Borland's high-end relational database management server, is designed for optimum performance in networked computing environments, extending the client/server model by providing multi-client to multi-server connection so that network managers and end-users can store data locally or remotely. To ensure the integrity of this architecture, a transaction occurs on all clients and servers or not at all and replication is greatly reduced.

Partnerships

Since 1991 Borland has formed a number of strategic relationships with vendors, examples of which are discussed below:

Borland forged its first strategic relationship with IBM in May 1991, to develop specific object-oriented programming languages and development tools for OS/2. In June 1991, Borland and IBM extended their business relationship by forming a new agreement under which Borland will develop the next generation of ObjectVision for OS/2 2.0.

Also in 1991, Borland launched its SQL Partners Programme. The new programme aims to strengthen commitment to the market by providing joint sales and marketing opportunities (e.g., between Borland and partners who develop software applications using Borland's Paradox and SQL Link database products).

In February 1992, Borland, together with Apple Computer, Lotus Development and Novell entered into an agreement to jointly develop and support the Vendor-Independent Messaging interface (VIM).

In July 1992 Borland entered into a multi-year site licence agreement with Price Waterhouse to supply its desktop software products to over 25,000 PCs.

In December 1992 Borland acquired all the rights to WordTech's Arago line of database management software.

In February 1993 Borland C++ for OS/2, an object-oriented development tool for developing 32-bit, OS/2 applications, was launched in conjunction with IBM.

Integrated Database Application Programming Interface (IDAPI) members including Borland, IBM, Novell and WordPerfect delivered a Working Draft Specification in February 1993. They also announced 15 new IDAPI partners; Adlin Research, Inc; CADWorks; CINCOM Systems Inc ; Cross Access Technologies; TTT Fulcrum Technologies; Ingres Corporation; Informix Corporation; New Intelligent Workstations; Ryobi Systems Co., Ltd; Seiko Epson; SYBASE; Sterling Software, Inc; Technosis, Inc; Twin Sun, Inc.; UNIX Systems Laboratories.

IDAPI is a data integration architecture for accessing critical business information, including SQL-based data and non-SQL (or navigational) data. IDAPI enables corporate developers and Independent Software Vendors (ISVs) to develop enterprise-wide applications for a wide range of platforms including OS/2, NetWare, DOS and Windows.

(b) Strengths and Weaknesses

Borland's new strengths are summarised as follows:

- Strong Technical Innovation & Expertise
- Strong Set of Products
- Large Installed Base
- Strong Customer Orientation
- Wide geographical coverage and strong distributor network.

Borland has a strong reputation as a company committed to development and enhancement of software for the PC environment.

Borland frequently uses the phrase "Software Craftsmanship", a watchword of founder Philippe Kahn which succinctly states the company's product philosophy. It is no coincidence that Borland's first product, Turbo Pascal - as well as many successful subsequent offerings - focuses on tools for building efficient and elegant software applications.

Borland's language products, which other software developers use to write programs, dominate their niche. The successful Quattro Pro Spreadsheet program has proved a significant competitor to both Lotus 1-2-3 and Microsoft Excel.

Borland's next generation of products to be released in 1993 are expected to be just as innovative as its existing offerings.

Borland has a strong product line which has enabled the company to become a leading desktop software developer. Turbo Pascal was Borland's first product and today is the de facto Pascal programming standard world-wide.

Borland's real growth has been in the spreadsheet market. Quattro launched in 1987 and Quattro Pro introduced in 1989 are direct competitors to Lotus 1-2-3 and have taken a hefty chunk of the spreadsheet market.

Borland has a large installed customer base gained through the company's aggressive pricing strategy. When Quattro Pro was launched, Borland offered the package at $100 to users of Lotus 1-2-3, increasing sales to approximately 50,000 a month, thus increasing its customer base.

Also, Borland's acquisition of Ashton-Tate and its established database product dBASE has doubled the company's revenues and increased its share of the PC database market place.

Another of Borland's strengths is its strong focus on customer needs, to the extent that it cites buying Ashton-Tate because Paradox users wanted more interoperability with Ashton-Tate's dBASE.

Although founded in the U.S. less than 10 years ago Borland has built up a strong presence outside of the U.S. In Europe, Borland has subsidiaries in Belgium, Denmark, France, Germany, Italy, The Netherlands, Spain, Sweden and the United Kingdom. Borland also sells its products through distributors in all countries, including countries where it has a subsidiary.

A tangible result of Borland's emphasis on total product quality and performance is its "best-of-breed" applications and languages. They are designed for superior performance, add value through being "open " across platforms and function the way people not trained in technology would use a computer.

Key to Borland's software craftsmanship is the use of object-oriented programming (OOP). This, coupled with Borland's strategy of creating the most "open" systems available, its involvement in the IDAPI initiative, which is a working partnership to provide a standards based method for integrating, manipulating and managing data residing in different databases and on different operating systems, and its client/server strategy using BOCA

(Borland Object Component Architecture), makes its software products a vital component of many businesses across a wide cross-section of industries around the world.

Corporate Milestones

1983 Founded by Philippe Kahn, a French mathematician.

1984 Launched Sidekick, the desktop organiser selling 80,000 copies in the first four months; succeeded in 1992 by Sidekick 2.0 designed to interface with both electronic and paper based personal organisers.

1985 Renounced copy protection and instituted an unconditional 60-day, money-back guarantee on all software.

1986 Went public on London's Unlisted Securities market and established a European headquarters in Paris.

1987 Launched Turbo Basic and Turbo C.

Quattro: The Professional Spreadsheet shipped later that year; sold 100,000 copies in 90 days.

1987 Acquired Ansa Software, developers of the Paradox relational database management program, Paradox 386, the first program to fully exploit the power of the Intel 386 microprocessor shipped in November 1987; this has become the cornerstone of Borland's industry leadership in database software.

1988 Moved into the professional programmer market with Turbo Pascal Professional, Turbo C Professional and a new Turbo Assembler and Debugger.

1989 December 20 - announced initial US public offering for 2,252,000 shares of common stock at $10.00 per share.

1990 Quattro Pro 3.0 was released and gained valuable market share.

1991 Acquired Ashton-Tate Corporation, which further cemented its leadership position in database software with the installed base of dBASE users. The acquisition also marked Borland's entry into the database server market with InterBase.

1991 Launched ObjectVision, an object-oriented visual programming tool for non-technical users.

1992 Shipped dBASE IV 1.5 for DOS, a powerful new release of the most widely used database management system. The new version is

Borland's first step in Borland's commitment to the dBASE community, which exceeds four million world-wide.

Launched Quattro Pro for Windows

1993 Ships Paradox for Windows, dBASE IV 2.0, C++ for OS/2 and ports InterBase for Novell's Netware 4.0

Ships Borland Office for Windows, following international agreement with WordPerfect.

Borland's mission to provide the best tools to help people manage data, analyze data and build mission-critical applications has been clearly demonstrated in the last year by its new alliance with WordPerfect, its commitment to client/server solutions, its development of the IDAPI initiative and its acquisition of dBASE-compatible technology from WordTech Systems.

The effectiveness of the direction that Borland is taking has been reflected in the encouraging figures in the fourth quarter of 1992.

Conclusions

Borland prides itself on a flat, non-bureaucratic structure, which is made possible in part by heavy use of electronic mail to facilitate communication across traditional lines of authority.

Borland was masterminded and continues to be led by Philippe Kahn who inspires a great deal of loyalty amongst his management team and staff. His strong commitment to building quality software has placed him amongst a small group of executives in the software industry who have an intuitive understanding of computer software, a gut sense of what customers will want and the technical knowledge to carry it out.

Borland has also proved adept at making acquisitions and absorbing technologies developed elsewhere. Its most recent acquisition, Ashton-Tate, has improved its position in the database market and brought with it a number of quality products.

However, the acquisition has also brought some costly surprises. Borland took a $103 million restructuring charge - considerably more than the $50 million initially anticipated - to cover the cost of absorption and of shutting down its Torrance Headquarters.

Borland now faces a number of challenges, the successful integration of Ashton-Tate and the release of its much talked about new generation of products (of which early reviews were

favourable) which are already months late and which are seen as an indication of where the company is going.

Borland may also face increasing competition from Microsoft and Computer Associates who, during the first half of calendar 1992, announced the acquisitions of Fox Software, Inc. and Nantucket Software, respectively. Both Fox and Nantucket produce database software products which compete directly with dBASE. The effects of these acquisitions is not yet known. Sales of the company's dBASE and Paradox products may be adversely affected by uncertainty in the market. In addition, because both Microsoft and Computer Associates have substantially greater financial, management, marketing and technical resources than Borland, it may experience far greater competition, including, but not limited to, price competition.

BSO/ORIGIN
Kon. Wilhelminalaan 3
P.O. Box 8348
3503 RH Utrecht
The Netherlands
Tel: 31 30 911 911
Fax: 31 30 949 010

President & CEO: Eckart J. Wintzen
Status: Private
Number of Employees: 4,112
Revenue (FYE 31-12-92): DFL 600.83 million

The Company

BSO/ORIGIN was originally a joint venture between BSO/Beheer bv and N.V. Philips Gloeilampenfabrieken (Philips). Philips contributed its international systems development department PASS, while BSO contributed its international operations. The joint venture forms part of BSO's strategy to penetrate the international market.

Agreement was reached with Philips on the transfer of 50% of the shares in Origin Technology in Business bv to BSO/Beheer bv in exchange for shares in BSO. For this purpose, BSO/Beheer bv increased its share capital by 8.33% by means of a share issue to Philips on April 1, 1991.

The company now operates in 14 countries in the Far East, North and South America and Europe.

Transferring full responsibility of ORIGIN to BSO has made it easier for the company to re-organise its activities internationally in response to market demands.

Organisational Structure

BSO/ORIGIN is a strongly decentralised organisation which operates in small and highly autonomous units. Apart from their commercial tasks, these operating companies are left to carry out their own policy within the framework of a number of quality standards drawn up centrally. The companies are only 'dependent' on the holding company for funding.

BSO/ORIGIN companies' activities have been categorised world-wide on the basis of two criteria: geographical (by country and, in some cases, sub-divided into a number of specific regions within a country) and by the nature of services offered.

All non-Dutch activities are carried out under the Origin umbrella. In the Netherlands, the company trades as BSO. Both are 100% subsidiaries of BSO/Beheer bv.

Exhibit A lists the number of employees in each job category.

Exhibit A

1992 EMPLOYEE ANALYSIS BY JOB CATEGORY
Source BSO

JOB CATEGORY	NUMBER OF EMPLOYEES
Trainee	39
Programmer	341
(System) Analyst/Programmer	675
System Analyst/Technical Designer/ System Programmer	852
System Designer/Project Manager/ Information Analyst	526
Senior Specialist/Senior System Designer/Project Manager/ Information Analyst	377
Project Manager/ (Technical) Consultant	208
Senior Consultant/Manager	140
Other	183
TOTAL	**3,341**

Source: BSO

ORIGIN collaborates with the local companies in the various countries on cross-border projects, to which it also supplies world-wide support in specialist areas and for specific products. It also acts as account manager for a number of multinational clients.

The BSO companies, targeted at the Dutch markets, mainly operate in the field of Applications Facilities Management, where the service supplier is responsible and accountable for an organisation's operational automation tasks.

Recent Acquisitions

In October 1991 BSO/ORIGIN acquired a 20% share in the German consultancy MCP AG, and a further 20% in January 1992. The holding will increase again to 40% in 1993. This is significant for development of business in SAP implementation.

In 1992 the company acquired 20% share in CDP Information Systems Pty Ltd in Australia to strengthen its position as a systems integrator in the Far East. CDP achieves 50% of its sales in Asia.

It also acquired software development companies in France (Secilog Sarl) and Spain (SDS SA); a 12.5% share in EDIsoft SA, a Portuguese company in the air traffic control business. It increased its participation in IMPACT from 45% to 90%.

Key Products and Services

The BSO/ORIGIN operating companies offer specialised services to their respective markets. The companies are as follows:

Quality Innovation renders a variety of services in the field of quality management and control. This autonomous subsidiary has a coordinating function within BSO/Origin, in addition to which it also operates commercially in the 'external' market.

Information Systems companies specialise in administration and financial automation.

Automation Technology companies specialise exclusively in technological and techno-scientific automation problems, including real-time systems and data communication applications.

Management Support companies provide specialist services in the field of management information systems.

Advies companies advise the management of companies and government departments on a range of organisational matters directly or indirectly related to the introduction of information technology.

Business Communications undertakes (audio-visual) communications projects directly or indirectly linked to the introduction of new techniques or technologies.

Artificial Intelligence specialises in the use of knowledge-based technology in large automated systems, either stand-alone expert systems or knowledge-based systems forming part of larger systems.

Instruction Technology specialises in the use of automated systems - including interactive media - for learning and training.

CAT BV is active in the field of interactive media (video discs, DVI, CDROM, CD-I and WORM) in automation, communications and document automation.

Aerospace & Systems carries out defence, space and air traffic control projects on the domestic and international markets.

Applications Facilities Management companies supply customised sets of automation services on a long-term "co-makership" basis.

Hyperion-W.W. & Associates, in which the company has a 40% holding and in which KLM Royal, Dutch Airlines is also a shareholder. It operates globally, supplying high-volume transaction processing software, especially for airline booking systems, the banking industry and travel agencies.

ISES International (Information Software Engineering Support) is a joint venture with KPMG to develop and run training courses for IS specialists and users.

IMPACT AUTOMATISIERING, in which BSO/Origin now has a 90% interest, provides services and products for local and wide-area computer and communications networks.

BSO/Origin also has interests in companies providing products and services in the fields of automatic guided vehicles, logistics control software and SAP implementation.

Not all BSO/Origin services are available outside the Netherlands (where about 50% of the operating companies are located). However, it is the long-term intention of the company to be able to offer a range of services in line with the offering in the Netherlands in the other countries in which it operates.

Financial Information Exhibit B

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (DFL MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenue	163.5	227.9	392.4	541.8	600.8
Annual Growth Rate (%)	19	39	72	38	11
Profit before Taxes	24.1	29.5	31.8	34.3	25.6
Annual Growth Rate (%)	22	22	8	8	(25)
Profit after Taxes	14.7	18.5	21.0	14.3	14.8
Annual Growth Rate (%)	31	26	14	(32)	3

BSO/Origin attributes the decrease in profit after taxes to the extensive re-organisation carried out in the second half of 1992. Sales in the Dutch market rose - in terms of organic growth - by 2% but profit contribution improved on 1991. Sales outside the Netherlands rose by 23% in 1992 to Dfl 234 million. But international turnover does not yet contribute to group profit. Generally sales to Philips fell as a share of total sales, in line with company policy.

Market Analysis Exhibit C

1992 MARKET ANALYSIS BY INDUSTRY SECTOR

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	140	42
Process Manufacturing	35	10
Transportation	20	6
Utilities	5	1
Telecommunications	20	6
Wholesale Distribution	5	1
Banking and Finance	35	10
Local Government	15	4
National Government	20	6
Business Services	30	9
Other Industries	10	3
Systems Software Products	5	1
TOTAL SOFTWARE AND SERVICES	**335**	**100**

*INPUT estimate of software and services revenues

Note: Numbers are rounded

Exhibit D

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE

	REVENUES* ($ MILLIONS)	PERCENT
Systems Software Products	5	1
Application Software Products	10	3
Turnkey Systems	50	14
Professional Services	150	43
Systems Integration	45	13
Systems Operations	10	3
Network Services	5	1
Processing Services	60	17
Total Software and Services	335	97
Equipment Services	5	1
Total Information Services	340	99
Equipment/Other Revenues	5	1
TOTAL EUROPEAN REVENUES	**345**	**100**

*INPUT estimate of software and service revenues

Note: Numbers are rounded

Exhibit E

1992 MARKET ANALYSIS BY COUNTRY MARKET

COUNTRY	REVENUES* ($ MILLIONS)	PERCENT
France	5	1
Germany	15	4
U.K.	20	6
Italy	15	4
Netherlands	254	74
Belgium/Lux'	28	8
Spain	3	1
Switzerland	3	1
TOTAL INFORMATION SERVICES	**345**	**100**

*INPUT estimate of software and services revenues

Note: Numbers are rounded

Company Strategies

(a) Company Direction:

BSO/Origin's prime objective is to provide high-quality services both to commerce and industry and to government, with a view to supporting the principle of introducing new technology - in the broadest sense of the word.

This support is extended in the form of consulting, project management, system development, implementation, education and training.

In 1991 BSO/Origin undertook an extensive re-organisation of its business. In 1990 BSO entered the international services market under the name ORIGIN Technology in business. By the end of that year, the company felt that the operation was too complex and to a certain extent uncontrollable. It was therefore felt necessary to make a number of changes. The restructuring cost approximately DFL 9.2 million after tax.

BSO/ORIGIN has now fully implemented these measures and expects a reduction in cost from 1992. BSO ORIGIN has geared its new operation towards internationalisation of its services.

The company is aiming to provide all its services on an international level through a network of local offices.

In support of this, BSO/ORIGIN has been actively seeking and investigating possible foreign acquisitions. This policy has proved relatively successful for the company and it will continue to show interest in companies that can expand or enhance its range of products and services.

(b) Conclusions

As part of its re-organisation the reporting lines within the company have been changed.

There is now only one management layer above the operating companies. The operating companies have been grouped into regions that are larger, the same or smaller than a country, and a director has been appointed for each region. These regional directors form the Management Committee together with the day-to-day management of BSO/Beheer.

This new structure means that BSO/ORIGIN now has an organisation with very short lines of communication, despite its international character and relatively large size.

The autonomy of the operating companies has been guaranteed and the change ensures direct lines of communication with the management company.

BSO/ORIGIN is very customer driven. The company has had a policy in operation over the last few years aimed at setting prices and margins that were acceptable to clients.

Furthermore, the globalisation of BSO/ORIGIN's client operations has led the company to commence operations in Brazil, Taiwan and India.

It is hoped that the measures taken in 1991 have made BSO/ORIGIN a more flexible organisation. In the short term the company hopes to achieve growth organically. The level of cost control which has now been attained should enable the organisation to achieve higher profit margins than has been the case so far.

COMPANY PROFILE

CISI
Tour Winterthur
Cedex 18
92085 Paris-La-Defense
France
Tel: 33 1 49 03 95 00
Fax: 33 1 49 03 95 95

CEO: Alain Vidart
Status: CEA and CGS subsidiary
Number of Employees: 3,481
Revenue (FYE 31-12-92): FF 1.53 billion

The Company

CISI was founded in 1972 by CEA, the French Atomic Energy Authority. In 1987, Cap Gemini Sogeti (CGS) acquired an interest in the group. CEA owns 64% and CGS 36%. CISI operates in the following markets:

- Space/aeronautics
- Telecommunications
- Defence
- Government Agencies
- Industry
- Banking and Insurance.

CISI has four main areas of activity:

- Scientific and Technical Software
- Software Development and Conversion
- Facilities Management and Network Engineering
- Packaged Software.

Financial Information

Exhibit A

CISI FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	1,108.0	1,150.0	1,382.0	1,475.0	1,528.0
Annual Growth Rate(%)	-6.0	3.8	20.2	6.7	3.5
Net Profit (FFM)	33.94	56.7	67.0	12.0	(-70.1)
Net Profit (%)	3.1	4.9	4.8	8.0	(-22.0)

Source CISI

Market Analysis

Exhibit B

1992 MARKET ANALYSIS BY CISI REPORTED ACTIVITY (FF MILLIONS)

ACTIVITY	1992 REVENUE	SHARE
Scientific and technical computing	520	34%
Management information systems	611	40%
Standard Software Solutions	397	26%
TOTAL	**1,528**	**100%**

Source: CISI

Exhibit C

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE ($ MILLIONS)

DELIVERY MODE	REVENUE*	PERCENT
Application Software Products	15	6
Turnkey Systems	50	21
Professional Services	110	46
Systems Operations	45	19
Network Services	10	4
Total Software and Services	**230**	**96**
Equipment Services	10	4
Total Information Services	**240**	**100**

**INPUT estimate of Software and Service revenues. Percents may not add to 100 due to rounding*

Exhibit C

1992 MARKET ANALYSIS BY INDUSTRY SECTOR ($ MILLIONS)

INDUSTRY SECTOR	REVENUES*	PERCENT
Discrete Manufacturing	55	24
Process Manufacturing	35	15
Utilities	10	4
Telecommunications	25	11
Banking and Finance	20	9
Insurance	5	2
Healthcare	10	4
Local Government	25	11
National Government	45	20
Total Software and Services	230	100

**INPUT estimate of Software and Service revenues*

Geographic Analysis

Exhibit D

1991 and 1992 CISI MARKET ANALYSIS BY GEOGRAPHIC AREA (FF MILLIONS)

GEOGRAPHIC AREA	1991		1992	
	REVENUE	SHARE	REVENUE	SHARE
France	915	62%	978	64%
Rest of Europe	560	38%	550	36%
TOTAL	1,475	100%	1,528	100%

Source: CISI

Exhibit E

1992 MARKET ANALYSIS BY COUNTRY ($ MILLIONS)

COUNTRY	REVENUES*	PERCENT
France	153	64
Spain	70	29
Europe Balance	17	7
Total Information Services	240	100

**INPUT estimate of Software & Services revenues.*

Operations Structure

Subsidiaries

CISI has a number of subsidiaries, which are listed in Exhibit F.

Exhibit F

SUBSIDIARIES AND PARTICIPATIONS

COMPANY	COUNTRY	% OWNED
CISI Ingénierie	France	100
RSCI	France	99.8
CISI AID	Italy	100
SCYT*	Spain	100
CISI Télématique	France	100
RISL	U.K.	95
CISI Transtec	France	100
CCS	Spain	82.3
SCOD SA	France	70
CAM Munich	Germany	60
Groupe CAM	Germany	60

Source CISI

The above company figures are consolidated in CISI accounts.

**SCYT subsequently closed because of poor market in Spain for scientific applications.*

In addition CISI has interests directly or indirectly in some 20 companies in Europe.

For the specialisations of the main companies, see below under Key Offerings:

Organisation

Exhibit G

CISI SUPERVISORY BOARD

Alain Vidart	Managing Director
Christian Bret	General Manager
Gerard Fraissenon	Finance Director
J-H Lorenzi	(CEA)
Pierre Chavy	(CEA)
JF Dubourg	(CGS)
M Jalabert	(CGS)
D Piet	(CEA)

Exhibit H

CISI KEY EXECUTIVES

Alain Vidart	Managing Director
Christian Bret	General Manager
Gerard Fraissenon	Finance Director
José Antonio Diaz Salanova	Managing Director CCS
Jean-Marie Frély	Human Resources Director
Jack Hoeckel	Managing Director, CISI Transtec
Nicole Lacour Huwel	Communications Director
Claude Moireau	Managing Director, CISI Télématique
Emile Szarzynski	Managing Director, CISI Ingénierie

Employee Numbers

Exhibit I

FOUR-YEAR HEADCOUNT

YEAR	1989	1990	1991	1992
Employees at Year End	2,619	3,045	3,285	3,481

Source CISI

Staff numbers for 1992 were distributed:

- Paris Region 34%
- Elsewhere in France 29%
- Rest of Europe 37%

Company Direction

CISI is particularly affected by the decline in the defence market and although aeronautics and space stood up well in 1992, a number of major projects have been mothballed or canceled and as a result, the company does not regard these markets as promising. However, air traffic control may offer growth.

Having local companies in Germany and Italy offers CISI a broader possibility of servicing demands from defence departments.

However, the Spanish market for scientific computing is so depressed that in 1992 it decided to close the subsidiary SCYT.

CISI offers Facilities Management, particularly on IBM and BULL equipment, but is also moving into the area of AS400 and its link with MEGACON gives it access to the market of major public sector purchasers. FM is generally a growth area for the company.

The 1992 results were affected by restructuring charges.

1992 Acquisitions/ Divestitures

CISI Ingénierie bought RSCI, a company offering IT services, scientific and technical, mainly to the air traffic control sector.

CCS in Spain took a controlling interest at the end of the year in SCOD SA, which markets standard accounting software.

CCS bought a 40% share in the Dutch company DIGIS with the possibility of a majority interest acquired in 1993.

Key Offerings

CISI has four main areas of activity.

Scientific and Technical Software:

CISI Ingénierie (sales of FF 530m and 1,117 employees) claims to be the market leader in the nuclear and aerospace industries, sectors that require high simulation-modeling and real-time system skills. It has expertise in:

- Real-time systems
- Scientific computing

- Artificial Intelligence
- Software Engineering.

CISI Ingénierie operates outside of France through its subsidiaries; CAM in Germany, and CISI AID in Italy.

Software Development and Conversion:

CISI Transtec (sales of FF 205 million and 404 employees) specialises in the development of management software. RISL, in the U.K., specialises in applications for the insurance industry.

Both companies offer the following services:

- Software development
- Technical upgrading
- Software conversions.

Most recently CISI Transtec has moved into the software maintenance market.

Facilities Management and Network Engineering:

CISI Telematique (sales of FF 342 m and 706 employees) manages and operates data processing centres and associated networks. It offers these services:

- Operations management
- Security services
- Network design
- Consultancy & technical support
- Network engineering.

Packaged Software

Headquartered in Barcelona, Centro de Calculo de Sabadell (CCS) (sales of FF 396 m and 1076 employees) is responsible for the solutions business of the CISI group, offering these services:

- Turnkey systems
- Horizontal and vertical applications.

These services are offered outside of Spain through the company's subsidiaries; CECS in Portugal and McKeown in Ireland and the U.K.

INPUT Assessment

CISI's ambition is to return to expansion in Europe. The company currently has subsidiaries in Germany, Spain, the U.K., Italy, Portugal and Ireland. In 1991, 38% of revenue was achieved outside of France, but by 1992 this had reduced to 36%.

In France, CISI had a mixed year. There was satisfactory growth of aerospace activities, significant growth in networks, facilities management and development, yet a very difficult year for defence activities.

Overall, turnover in 1992 reached FF 1.5 billion, an increase of 3.5% over 1991. A net loss of FF 70 million was recorded.

Despite its decrease in profitability, CISI is determined to pursue its research and development efforts, to invest in software tools to maintain its skills base and to continue with its external growth.

CISI sees these decisions as essential if the company is to meet market demands long term.

(b) Conclusions

In 1993, CISI's priority is to return to the level of profitability achieved in previous years, while continuing growth in Europe.

This will be a challenge to the company in a year where recessionary pressures have not lifted and spending remains cautious. However, the company does have an established presence in Europe, and has strategically acquired companies that appear to fit well with its four main subsidiaries.

Certainly, CISI has a good base to grow from and has succeeded so far in achieving a substantial amount of revenue from outside its national market.

CMG (COMPUTER MANAGEMENT GROUP) LTD
Registered Office
Carrier House
1-9 Warwick Row
London SW1E 5ER
United Kingdom
Tel: 44 71 630 7833
Fax: 44 71 630 6677

Chairman and Chief Executive: Douglas Gorman
Status: Private
Number of Employees: 1,637
Revenue (FYE 31-12-92) £116.2 million

The Company

CMG was founded in 1964 by Mr. Douglas Gorman. Since its foundation it has become one of the largest independent providers of management and technical consultancy, processing services, software development and business systems in Europe.

CMG now claims to be the largest privately-owned independent company of its kind in Europe, and has announced its intention to see a listing on the London Stock Exchange in late 1994 or early 1995.

CMG specialises in specific business areas including government, local authorities, public utilities, insurance, banking, building societies, manufacturing, distribution and retail, oil/petrochemicals and charities.

Organisational Structure

The company has currently 1,789 shareholders who are mainly group employees. The largest shareholder is Mr Gorman, the founder, who owns 15.4% of the company. Exhibit A lists CMG's key executives.

KEY EXECUTIVES

Name	Position
Ron J. White	GM/Chairman, U.K.
Sander C. Waalboer	GM/Chairman, Germany
Tom Rusting	GM/Chairman, The Netherlands
Chris Banks	Group Finance Director

At the end of 1992 CMG restructured its U.K. operations with divisions to serve vertical markets, e.g., finance, utilities and oil/gas. Exhibits A and B list direct and indirect subsidiaries. CMG holds 100% of the issued share capital of all of its subsidiaries.

Exhibit A

DIRECT SUBSIDIARIES

COMPANY	COUNTRY	PERCENT
CMG Computer Management Group (U.K.) Ltd	U.K.	100%
CMG International Ltd	U.K.	100%
CMG (Computer Management Group) BV	Netherlands	100%

Exhibit B

INDIRECT SUBSIDIARIES

Companies: Germany	
CMG Deutschland GmbH	
CMG Frankfurt GmbH	
CMG München GmbH	
CMG Consult GmbH	CMG Kernel GmbH
The Netherlands:	
CMG Nederland BV	
CMG Amsterdam BV	
CMG Bedrijfsinformatiesystemen BV	
CMG Computercentrum BV	
CMG Den Haag BV	
CMG Den Haag 2 BV	
CMG Den Haag 3 BV	
CMG Finance BV	
CMG Finance 2 BV	
CMG Informatietechniek BV	
CMG Informatieverwerking BV	
CMG Management Consultancy BV	
CMG Noord-Nederland BV	
CMG Nutsbedrijven BV	
CMG Personeelssystemen BV	
CMG Rotterdam BV	
CMG Utrecht BV	

Recent Projects

Examples of recent contracts won by CMG are as follows:

- A full outsourcing contract to handle administration systems, including marketing, promotion, subscriptions for Netherlands publishers Wolters Kluwer. Value £14 million over 6 years.
- The first client contracts for a new service - IS2000 - aimed at the insurance market and developed in collaboration with Dominion Insurance.
- A Facilities Management contract for BP Petroleum, worth £25 million over the next five years. CMG will assume responsibility for all aspects of BP's share registration system.
- Design and implementation of a share register system for Abbey National (U.K.).
- Full management of the Grand Metropolitan share register.
- IT processing of Guinness share register.
- Development of a new customer invoicing and debt collection system in partnership with two Dutch water boards - the Amstel and Gooiland Water Board and the Limburg Water Authority.
- A contract initially worth £240,000 to provide strategic advice on Chevron U.K. Ltd's Multi Field Integration project.
- Installation of a "back office" software package for Sun Life Unit Services (U.K.) throughout its branch network and linked to its head office.
- A 2,400-employee payroll processing contract from Bradford & Ilkley Community College. The contract is valued at £100,000 over the next year or years.
- A payroll processing contract for KLM, the Royal Dutch airline, in an overall investment by the airline valued in excess of £1 million.
- The first stage of a five-year £1 million IT upgrade for The Chartered Institute of Management Accountants (U.K.). INFOBASE will form the basis of the System Specification.
- A three-year contract with Esso Petroleum to outsource its over night centralised mainframe

- printing at the CMG Print Centre at Feltham (U.K.).

- Installation of new payroll processing and management reporting system for travel retailer Lunn Poly Ltd (U.K.). The contract is worth approximately £250,000 in installation and processing revenue over the next five years.

- Payroll processing contract from Manchester Polytechnic (U.K.). The service will be based on the PAYFACT 2000 system and is valued at £100,000 over three years.

Recent Acquisitions

- During 1989, CMG acquired Mayne Nickless Computer Services Ltd., an organisation providing payroll services in the North of England.

- In February 1990, DORA Computer Services BV in the Netherlands was acquired. The company supplies computerised payroll services together with customer-specified computer software developments for payroll in the Netherlands.

- In March 1990, CMG acquired Quadata BV, another computer services organisation providing payroll and facilities management services in the Netherlands.

- In May 1990, Sysco GmbH and its subsidiary Sysber GmbH were acquired. The companies provide computer consultancy services in the banking and finance sectors.

- In January 1992 CMG formed CMG Munchen GmbH, making it the company's fourth office in Germany. The company will target the industrial and financial sectors.

- In August 1992 CMG acquired German IT consultancy Kernel GmbH, which forecast revenues for 1992 of some DM3 million.

Key Products and Services

CMG has six principal areas of activity:

- Professional Services
- Software Products
- Processing Services
- Network Services
- Systems Operation
- Systems Integration

Professional Services

CMG provides consultants for all phases of the project life cycle from management consultancy through to systems design and development. The company has developed its own development methodologies which are:

- **COMMANDER** - an integrated project support environment.
- **ARCHIPEL** - a framework within which strategic business, organisation, information and automation planning can be undertaken.
- **PLOT** - a methodology to assist manufacturing companies to introduce new technology.
- **OFFICER** - used in the implementation of office systems.
- **SQM** - strategy for quality manager.
- **SMS** - strategy for Management Services.

Software Products

These include:

- **PAYFACT 2000** - a personnel and payroll package which CMG installed in its Dutch and U.K. processing centres.
- **FACT 2000** - a financial accounting package.
- **SHARE REGISTRATION** - a service to administer all aspects of the share registration business.
- **IMACS** - a London market underwriting and accounting package.
- **Bank of England Reporting Suite** for Strategy reporting by banks to the Bank of England.
- **INFOBASE** - information management for charities, associations and membership institutions.

CMG also provides customised solutions. Software packages are often used as base products and are tailored to individual client needs.

Industry Knowledge:

CMG targets specific industry sectors, notably:

- **Finance.** CMG's specialist businesses operate in all the major financial centres of the U.K., the Netherlands and Germany. They cover all aspects of banking, insurance, securities and building societies.
- **Public Sector.** Targeted clients are national and local government, schools, social security, health care and liabilities. CMG is a leading supplier of Geographic Information Systems, particularly in the Netherlands.
- **Manufacturing, Retail and Distribution.** The company's expertise includes advanced manufacturing aids, warehousing, transportation and freight forwarding.
- **Associations and Charities.** In the U.K. CMG provides packaged systems and consultancy to many of the country's professional and charitable organisations.

Financial Information

Exhibit D

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (£ MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	64.6	85.6	96.2	102.9	116.2
Annual Growth Rate (%)	14%	32%	12%	7%	13%
Profits before Taxes	5.0	8.6	8.6	9.1	9.5
Annual Growth Rate (%)	(11%)	72%	0%	6%	4%
Profit after Taxes	3.1	5.1	5.1	5.6	5.9
Annual Growth Rate (%)	(6%)	65%	0%	10%	5%
% Net Profit	4.8%	6.0%	5.3%	5.4%	5.1%
Earnings per Share	23.6p	38.8p	37.0p	39.8p	41.3p

Note: Numbers are rounded

Market Analysis

Exhibit E

1992 MARKET ANALYSIS BY DELIVERY MODE

DELIVERY MODE	REVENUE ($MILLIONS)	PERCENT
Application Software Products	6	3
Professional Services	86	47
Systems Integration	6	3
Systems Operations	17	9
Network Services	7	4
Processing Services	21	11
Total Software and Services	143	78
Other Revenues	40	22
TOTAL EUROPEAN REVENUES	**183**	**100**

*** INPUT** estimates

Note: Numbers are rounded

Exhibit F

1992 MARKET ANALYSIS BY COUNTRY

COUNTRY	REVENUE ($ MILLIONS)	PERCENT
Germany	10	7
U.K.	45	31
Netherlands	86	60
TOTAL SOFTWARE AND SERVICES	**143**	**100**

Note: Numbers are rounded

Exhibit G

1992 MARKET ANALYSIS BY INDUSTRY SECTOR

INDUSTRY SECTOR	REVENUES ($ MILLIONS)	PERCENT
Discrete Manufacturing	13	9
Process Manufacturing	15	10
Transportation	4	3
Utilities	12	8
Retail Distribution	4	3
Wholesale Distribution	3	2
Banking and Finance	32	22
Insurance	4	3
Health care	4	3
Local Government	22	15
National Government	22	15
Other Industries	10	7
TOTAL SOFTWARE AND SERVICES	**143**	**100**

Note: Numbers are rounded

Processing Services

CMG has several processing centres in the Netherlands and the U.K. The main activities are payroll processing services. Payroll is an area CMG has concentrated on over many years. Its bureau based and in-house systems have given CMG a significant share of the European market.

CMG offers Value Added Network Services (VANS) which include:

- **ORDERLINE** - a service designed specifically for importers, suppliers and manufacturers who sell their services through a dealer network. This network gives the opportunity to order directly from a supplier via CMG.
- **CARLINE** - designed for car dealers to order their stock.
- **CMG** also operates, on behalf of Telekurs, an information service providing stock exchange information to clients in The Netherlands.
- **Kluwitel** - a news service available to Wolters Kluwer publishers.
- **Citibank/Diners Club** - a clearing system for Diners Club agents.
- **CMG** handles the yellow pages/home shopping network.

Systems Operation and Systems Integration

CMG offers the option to manage clients' payroll and general processing systems in-house.

CMG provides a full range of services to facility manage the clients' total system or the software alone.

In 1991 CMG won a number of systems operation contracts, most notably from BP Petroleum, worth £25 million over a five year period.

Company Strategies

Company Direction

CMG's Objectives are as follows:

- To continue to be an expanding European international Organisation.
- To be in the business of providing high-quality professional and processing services to large and medium-sized businesses, government and public utilities.
- To build on its portfolio of offerings - which it sees as unique among independent specialist vendors - particularly emphasising management consultancy.
- To be major players throughout Europe in Facilities Management Services.
- To become major players in the U.K. Share Registration market.
- To remain a quality organisation in every respect.
- To specialise in major market sectors and be able to provide a full I.T. service to these markets, from strategy planning to software delivery including package selection, bespoke software development, project management and systems integration.
- To retain fundamental policies of equal opportunities, fairness, openness, maximum communication and business ethics.

Strengths and Weaknesses

CMG's main strength lies in its presence as an established vendor in its main areas of activity. The company is also strong in its

knowledge of and expertise in the industry sectors in which it operates.

CMG has a strong reputation as a quality vendor and this is undoubtedly a major strength in a market where quality is highly valued. CMG has enhanced its reputation by receiving BS 5750/1SO 9001, the international certificate of quality assurance.

CMG's main weakness is its lack of European presence outside the U.K., Netherlands and Germany. However, the company now appears to be addressing this, and is actively seeking a stock market listing to support its European expansion strategy.

CMG plans to acquire organisations complementary to its existing businesses. CMG feels that the company has reached a point in its development where significant growth, particularly in other countries, would be better achieved with the financial credibility and access to funds that is inherent in obtaining a listing on the London Stock Exchange. The company hopes to have a full listing by 1996.

Conclusions

CMG is a well established vendor in the U.K. and a market leader in the payroll and financial services markets. It has a growing presence in Germany. In the Netherlands, where 60% of its revenue arises, it is a leading supplier of payroll services and one of the best known consultants.

The company realises that in the long term, to compete successfully with the growing number of pan-european vendors, it will need to expand outside of its current markets. It has therefore announced its intention to seek a stock market quote.

CMG has always prided itself on being a private company with almost 100% of its equity owned by employees. CMG claims that its employees have added motivation to produce top-class work, resulting in a better quality of service to its clients.

The challenge for CMG as a public company will be to retain the cultural components of its structure as a private company, which have made it so successful, and yet open its management culture to successfully integrate foreign acquisitions.

EDS
European Headquarters
Carlton House
Ancells Park
Fleet
Hampshire GU13 8UN
United Kingdom

Tel: 44 252 816688
Fax: 41 252 816858

U.K. Headquarters
4 Roundwood Avenue
Stockley Park
Uxbridge
Middlesex UB11 1BQ
United Kingdom
Tel: 44 81 848 8989
Fax: 44 81 756 0130

Group Executive - European Operations:
John Bateman
Status: GM subsidiary
Revenue (FYE 31-12-92)
Europe: $1.4 billion; World: $8.2 billion.
Number of employees:
Europe - 11,000; World - 70,500

MD: Tom Butler

The Company

EDS was founded in 1962 and became an independent subsidiary of General Motors in 1984. It is a world leader in the supply of information technology services providing consultancy, systems development, systems integration, systems and process management to almost every market sector.

EDS currently has more than 7,200 clients in over 30 countries worldwide and employs 70,500 staff.

EDS' largest client is General Motors Corporation (GM) and its subsidiaries, which contributed approximately 41% to EDS' 1992 revenue.

EDS and its subsidiaries were acquired by GM in October 1984 for approximately $2.5 billion.

Through its work for GM, EDS has gained expertise in major systems, strengthened its international presence and enhanced its communications expertise.

Organisational Structure

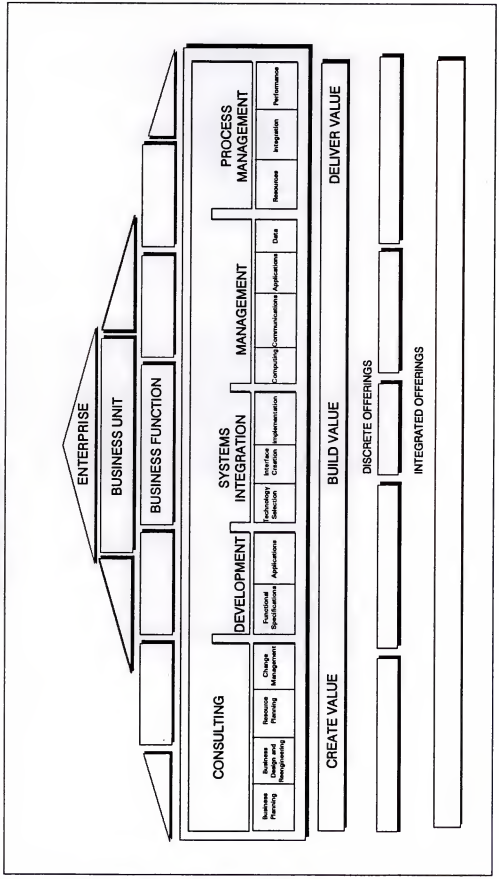
EDS is currently organised into strategic business units, which include:

- Communications
- International and global industries (international means all countries outside North America)
- Manufacturing and distribution
- Government and defence systems
- Health and benefits
- Financial services
- Insurance services
- Retail and commercial
- Transport and travel
- Energy and petrochemicals

Geographically EDS is organised in four Business Units in Europe: North, Southern, Central and Eastern. Coordination with the Strategic Business Units is effected through the EDS European Board.

EDS offers a broad spectrum of IT services. Its service model is shown in Exhibit A.

Exhibit A



Recent Acquisitions

In August 1991, EDS acquired SD-Scicon, the British computer services company, and its subsidiaries for $265.7 million.

SD-Scicon was formed in 1988 by a takeover by SD (Systems Designers) of the far larger Scicon Group, previously owned by BP. SD was originally founded in 1969 and obtained flotation on the stock market in 1982. Scicon started operations in 1960 as part of CEIR (Corporation for Economic and Industrial Research)-U.S.

SD-Scicon offers the following services to an international client base:

- Systems Integration
- Facilities Management
- Consultancy
- Application products

In 1992 EDS renamed the GFI in France as EDS-GFI and SD-Scicon in the U.K. as EDS-Scicon. A 6% staff lay-off was announced by EDS-Scicon.

Additionally EDS gained new customers, new products and entry into the aerospace industry with acquisition of McDonnell Douglas Systems Integration Company (MDSI) and the software distribution business of McDonnell Douglas Information Systems International. With MDSI comes Unigraphics, one of the leading CAD/CAM systems on the market today. Another popular MDSI product is the Graphic Data System (GDS), a CAD application especially suited for large-scale projects.

Key Products and Services

The activities of the company are classified as:

- Consulting Services
- Systems Development
- Systems Integration
- Systems Management
- Process Management.

Consulting Services - EDS evaluates current and prospective customer needs in conjunction with industry trends to offer solutions that may include IT systems, management or work-flow analysis.

Systems Development - EDS designs, develops and installs new information processing systems, or additional features for existing systems, in each case in accordance with customer specifications.

Systems Integration - EDS selects appropriate technologies and builds technical interfaces to construct an integrated system that may include software, hardware, networking, support and maintenance.

Systems Management - EDS assumes customer IT operations, including equipment, people and information processing functions. Under a typical arrangement, the customer controls the scope of the work that will be performed as well as the delivery schedule. EDS continues to provide day-to-day operations expertise and support for the customer.

Process Management - entails the creation of an entire business function, often including activities other than IT.

EDS can provide IT services to its customers either at customer sites or through one of its 18 information processing centres located worldwide. Data transmission and communication requirements are provided through the EDS digital communications network, EDS Net, which EDS believes to be one of the largest digital telecommunications networks in the world, other than common carrier or government networks.

Financial Information

On a worldwide basis, EDS' total 1992 revenue reached $8.2 billion, a 16% increase over 1991. European revenue amounted to 17% of the total (14% in 1991). Net income rose by 16% to $635.5 million.

Exhibit B

EDS FIVE-YEAR FINANCIAL SUMMARY ($ MILLIONS) (FYE 31-12)

YEAR	1988	1989	1990	1991	1992
Revenue	4,844.1	5,466.8	6,108.8	7,099.0	8,218.9
Annual Growth Rate (%)	9%	13%	12%	16%	16%
Profit before Taxes	589.4	680.3	788.7	893.7	1,000.8
Annual Growth Rate (%)	12%	15%	16%	13%	12%
Profit after Taxes	384.1	435.3	496.9	547.5	635.5
Annual Growth Rate (%)	19%	13%	14%	10%	16%

Market Analysis Exhibit C

WORLDWIDE MARKET ANALYSIS BY CLIENT BASE ($ MILLIONS)

YEAR	1988	1989	1990	1991	1992
Systems and operating contracts					
· Outside customers	1,907.6	2,384.6	2,787.5	3,666.3	4,806.7
· GM + subsidiaries	2,837.0	2,988.9	3,234.2	3,362.2	3,348.5
	4,744.6	5,373.5	6,021.7	7,028.5	8,155.2
Interest and other	99.5	93.3	87.1	70.5	63.7
TOTAL	**4,844.1**	**5,466.8**	**6,108.8**	**7099.0**	**8,218.9**

Approximately 41% of EDS' total 1992 revenue was derived from its parent company, GM. (The 1991 proportion was 47%.) Outside customer revenue grew by 31 % in 1992.

Exhibit D

1992 MARKET ANALYSIS BY GEOGRAPHIC REGION ($MILLIONS)

REGION	REVENUES*	PERCENT	OUTSIDE CUSTOMERS	PERCENT
U.S.	6,256.5	77	3,693.6	77
Europe	1,374.8	17	828.3	17
Other	523.9	6	284.8	6
TOTAL	**8,154.5**	**100**	**4,806.7**	**100**

* Total revenues for each region incorporating both GM revenues and external revenues but excluding interest. In 1991 12% of outside revenues were derived from Europe. In 1992 this had risen to 17%.

INPUT estimates the consolidated European Software and Service revenues of EDS and SD-Scicon were $720 million in 1991.

Exhibit E

1992 MARKET ANALYSIS BY COUNTRY
EUROPEAN INFORMATION SERVICES

GEOGRAPHIC MARKET	REVENUE* ($ MILLIONS)	PERCENT
France	330	40
Germany	65	8
U.K.	290	35
Italy	25	3
Netherlands	29	3
Belgium/Lux'	26	3
Spain	21	3
Switzerland	8	1
Austria	1	0
Sweden	25	3
Europe Balance	6	1
TOTAL NON-GM SOFTWARE AND SERVICES	**830**	**100**

* INPUT estimates

* Note: Numbers are rounded

Exhibit F

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
EUROPEAN SOFTWARE AND SERVICES

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	155	19
Process Manufacturing	135	16
Utilities	75	9
Telecommunications	25	3
Retail Distribution	25	3
Banking and Finance	85	10
Insurance	30	4
Healthcare	40	5
National Government	155	19
Other Industries	85	10
Systems Software Products	20	2
TOTAL NON-GM SOFTWARE AND SERVICES	**830**	**100**

* INPUT estimates

Exhibit G

1992 MARKET ANALYSIS BY DELIVERY MODE FOR EDS (USING INPUT CLASSIFICATION)

DELIVERY MODE	REVENUE* ($ MILLIONS)	PERCENT
Systems Software Products	20	2
Application Software Products	30	4
Turnkey Systems	20	2
Professional Services	125	15
Systems Integration	190	23
Systems Operations	340	41
Network Services	20	2
Processing Services	85	10
TOTAL NON-GM SOFTWARE AND SERVICES	**830**	**100**

* INPUT estimates

Note: Numbers are rounded

Company Strategies

(a) Company Direction

EDS aims to bring value and strategic advantage to its customers and to be recognised as the premier provider of IT services for companies and governments around the world.

EDS sees diversity as a catalyst for long-term growth. The company is basing its future on delivering services to clients across a growing spectrum of industries. Quality will be a key customer issue throughout the 1990s and beyond. EDS believes that as competition in the global marketplace intensifies, customers are defining quality. And only those companies who meet that definition and are customer driven will thrive.

To continue to compete successfully, EDS is responding to the changing business environment by transforming its culture. The company is empowering those closest to the customer to make decisions that lead to customer satisfaction. It has also established a set of guiding principles and practices that lay the foundation for continuous quality improvement across the entire company.

(b) Strengths and Weaknesses

EDS' main strengths can be summarised as:

- Global Presence
- Strong Systems Operations and Systems Integration Skills
- Strong Management Team
- Strong Acquisition Strategy
- Ability to secure large contracts.

EDS' primary strength lies in its geographical presence. The company operates worldwide, has 7,000 customers in 30 countries and has continued to strengthen its global customer base through acquisitions and strategic agreements.

EDS possesses strong Systems Operations and Systems Integration skills, which it has enhanced significantly, particularly the latter, with its recent acquisition of SD-Scicon and its diverse European customer base.

EDS is fortunate in that it possesses a strong management team who can successfully drive company strategies and provide the long-term commitment required. An example of this is the company's target account strategy, where organisations were singled out as prime target accounts capable of contributing significant revenues to EDS. The company invested the resources and time necessary, in some cases years, to secure these targeted organisations as clients.

EDS' management team has a good track record in making successful acquisitions. The company has practiced a growth by acquisition strategy throughout its 30 year life, and is currently more active than ever along those lines. EDS claims to have a very positive attitude to acquired staff, viewing them as an asset, and has a very good track record of exploiting this asset. The company's whole life has been based on this strategy.

EDS has the enviable ability to secure large contracts, particularly in the areas of Systems Integration and Systems Operations. The company is an established vendor in both markets with a reputation for technical expertise. Also the company's GM parentage has enhanced its financial stability, a key asset when tendering for large FM projects.

EDS is viewed as technical experts. The company's focus is on setting itself as a strategic adviser on its clients' IT investments.

Within the last year EDS has become one of the top five Software and Service players in the European market. SD-Scicon was, in the true sense of the word, a 'strategic' acquisition for EDS - strengthening substantially its presence in Europe, a prime target area for growth.

EDS now operates in 17 European countries and has 11,000 employees there. In 1992 it added to its German base by acquiring mbp Software and Systems (570 employees) and IDee.

As well as the need to continue its European expansion, EDS faces a challenge in moving itself away from its image of a technical supplier to its desired position of a 'business process enhancer' improving its customers' business operations through IT.

It has started to position itself explicitly to address the issue with the concept of "co-sourcing", in which strategic opportunities are initially identified by a team of EDs consultants. This is followed by business process re-engineering, application of IT and management of business processes. And the contract, "based on value rather than price," is managed by a team drawn from both EDS and the client.

EDS sees its business advisory role as its differentiator from traditionally technical vendors and processing services companies. The main challenge for the company will be to capitalise on this strategy and build a reputation such as Andersen Consulting or Price Waterhouse as a strategic consulting and technology business.

(c) Conclusions

EDS, through its European subsidiaries, is one of the leading IT services suppliers in Europe, with operations in 17 countries.

EDS in Europe offers the full range of core activities and provides services and products to an international client base. Vertical market groups specialise in particular sectors, which include process and discrete manufacturing, oil and petrochemicals, utilities and transport, and government and defence. Cross-industry groups provide technical consultancy, communications, facilities management, software products and training.

The success of EDS as a manager of IT service businesses can be measured by its 14-year record of increased profitability. And 1992 was another good year.

In 1991, revenues increased 16% to $7.1 billion with profit before tax reaching $894 million, an increase of 13% over the previous year. However, a significant portion of this revenue can be attributed to the acquisition of SD-Scicon and McDonnell Douglas Systems Integration.

(d) Strategic Assessment

EDS has strengthened its European presence and expanded its capabilities through its acquisition of SD-Scicon and its subsidiaries. The company now represents a significant competitive threat to the leading European independent vendors.

SD-Scicon has added a number of prestigious European organisations to the EDS client base. Clients include the U.K. Ministry of Defence, British Aerospace Australia Limited and the European Space Agency.

What SD-Scicon brings to EDS is expertise in consulting, systems development and facilities management that neatly complements its traditional skills and significantly improves its ability to serve European customers. EDS can now approach any corporation of any size in any area and provide greater value and competitive advantage.

EDS also broadened its customer base with the acquisition of McDonnell Douglas Systems Integration Company, enabling it to enter the aerospace industry, where the potential for new or expanded business with existing MDSI customers is strong.

The strength of EDS and its future success lies in its ability to form long-term strategic relationships with clients. Continued success over three decades results from the ability to combine a breadth of advanced technical knowledge and skilled large-scale project management with extensive experience in clients' own business sectors and an understanding of their strategic business needs.

ERITEL
Pº de la Castellana, 141
Edificio Cuzco IV
28046 Madrid
Spain
Tel: 34 1 348 11 00
Fax: 34 1 579 10 74

President: Javier Monzón
Executive Chairman: Jose María Vilá Solanes
Number of Employees: 1,730
Revenue 1992 Ptas 16,000 million

The Company

Eritel was formed in 1990, the result of a merger between the two Spanish software and services companies, Eritel and Eria.

Eritel has a number of shareholders which are shown in Exhibit A.

Exhibit A

SHAREHOLDERS

SHAREHOLDERS	PERCENT OWNED
CESELSA-INISEL	53.73%
Telefónica de España	36.56%
BBV	
Banesto	
Central Hispano	{9.71%
Cap Gemini Sogeti	
TOTAL	**100%**

Eritel achieved 1992 revenues of Ptas 16 billion and employs 1,730 staff.

Eritel divides its business activities into:

- Consultancy
- Systems Integration
- Systems Engineering
- Technical Assistance
- Outsourcing Services
- Multi-media Solutions
- Training

The company focuses on the following vertical markets.

- Public Administration (Government)
- Building
- Defence
- Finance
- Industry and Services
- Health
- Insurance
- Telecommunications
- Transport

Organisational Structure

Exhibit B lists Eritel's main subsidiaries.

Exhibit B

MAIN SUBSIDIARIES

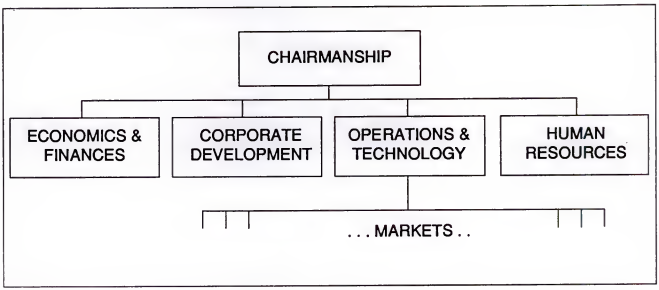
COMPANY	PERCENT OWNED
Central Informatica	100%
Ibermatica	39%
SADIEL	12.28%

- During 1992 Eritel increased its holding in, and acquired 100% of, Central Informatica, a company focused on software development and technical support services.
- Ibermática specialises in software development and data processing for savings banks.
- SADIEL was founded to encourage computerised development in Andalucía.

Eritel's Organisational Structure is shown in Exhibit C.

Exhibit C

ERItel organisation structure



Major Recent Projects

Examples of projects undertaken by Eritel in 1992 include:

- Design, development and implementation of the AMIC, a system for the Olympic Family, commissioned by the Olympic Committee of Barcelona 1992 (COOB'92).
- The system of Electronic Mail for the Autonomous Government of Valencia.
- The public Accounting System for the Department of Finance and Public Credit of Ecuador.
- The System of Authorization for credit cards operations in the Bank of Fomento.
- The system of communications for AVE, the Spanish high speed railway.
- The development of a set of products for public and private health services (MIDHOS, EGIDAS, SISLAB and SIAMAT)
- The establishment of the Clearing Centre for car insurance companies (Project CICOS).

- The integrated satellite system for Telefónica.
- The system for diagnosis and evaluation of Fly Programs for IBERIA.
- Design and development of the system ATLAS for the management and control of the telephonic circuits of Telefónica, and - also for Telefónica - the system for customer service.
- Progress in different markets with implementation of communications platform specifically designed to create EDI (Electronic Data Interchange) systems and offer EDI services.

Key Products and Services

Eritel's current offerings are structured around the following core activities.

Consultancy

This activity is divided into two categories.

- Business function consultancy
- Organisation and technological consultancy.

Systems Integration

Eritel sees Systems Integration as one of its key activities. Its approach is to supply turnkey solutions that are capable of satisfying customer requirements, and to take full responsibility for the project in consultation with the client.

Systems Engineering

Eritel designs, develops and installs applications and information systems across all industry sectors.

Outsourcing Services

Seen by Eritel as the externalisation of the management of client DP activities, by partial or complete sub-contracting of information systems.

Training

Eritel divides its training business into two activities. The first is an advisory service to management on current technologies and their effect on improvement of business management and profitability.

The second is training users and the promotion of technological advances.

Multi-media Solutions

Focused on the design, development and implementation of systems able to handle and integrate voice, text, data and images.

Technologies

1992 Eritel assigned 9% of its turnover to research and development. It has a presence in the main Spanish and European programmes related to IT (ESPRIT, EUREKA, STAR, ENS and AIM.)

Knowledge Engineering:

Systems and solutions where the use of AI tools and techniques allow the solution of problems for which conventional techniques are inadequate. Examples include knowledge-based systems, case-based reasoning (CBR) and neural networks.

Communications:

Primarily aimed at the interconnection of heterogeneous multi-supplier systems.

The main technologies are LAN, WAN, EDI, E-Mail, X.400 and X.500.

Statistical Systems:

Eritel develops specialised products and services for statistical data analysis.

Geographic Information Systems:

Design and development of systems to store and process topological data and to represent it graphically.

Software Engineering and Quality Procedures:

In order to meet its strategic objective to provide high-quality offerings Eritel uses two unique technologies as the basis for its work for clients. These are:

- its own methodology (MEIN II) - selected as one of the bases for the proposed EUROMETHOD

- its own proprietary quality system, which guarantees the successful implementation and certification of software for clients.

Exhibit D

Financial Information

THREE-YEAR FINANCIAL SUMMARY (PTAS MILLIONS)

	1990	1991	1992
Revenue	16,386	18,565	16,000
Annual growth rate (%)	-	13	-14
Profit	786	803	NA
Annual growth rate (%)	-	2	

Market Analysis

Exhibit E

1991 MARKET ANALYSIS BY ERITEL-REPORTED ACTIVITY

ACTIVITY	REVENUE (PTAS MILLIONS)	PERCENT
Consultancy	606	3
Data Processing/ Facilities Management	925	5
Hardware and Software products	3,166	17
Systems	13,868	75
TOTAL	18,565	100

Source: Eritel

Exhibit F

1991 MARKET ANALYSIS BY INDUSTRY SECTOR

SECTOR	REVENUE (PTAS MILLIONS)	PERCENT
Finance	2,981	16
Industry	3,118	17
Public Administration	5,453	29
Telecommunications	7,013	38
TOTAL	18,565	100

Source: Eritel

Exhibit G

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE

DELIVERY MODE	REVENUES* ($ MILLIONS)	PERCENT
Application Software Products	5	4
Turnkey Systems	20	14
Professional Services	95	68
Systems Integration	5	4
Processing Services	5	4
Total Software and Services	130	93
Equipment/Other Revenues	10	7
TOTAL EUROPEAN REVENUES	140	100

*INPUT estimate

Note: Numbers are rounded

Exhibit H

1992 MARKET ANALYSIS BY INPUT INDUSTRY SECTOR

SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	10	8
Process Manufacturing	5	4
Utilities	5	4
Telecommunications	50	38
Banking and Finance	20	15
Local Government	10	8
National Government	25	19
Other Industries	5	4
TOTAL SOFTWARE AND SERVICES	130	100

Company Strategies

Eritel has three main goals:

- To ensure top quality and maximum profitability of its service offerings.
- To achieve increased specialisation of its solutions and to offer a wider range of products.
- To expand activities both in Spain and abroad.

Eritel is a leading software and services player in its national market. The company offers a broad range of products and services to its four main industry sectors, finance, industry, public administration and telecommunications. Its objective is to become a "Strategic Ally" to its customers, providing quality serviees and solutions regardless of technical complexity.

Eritel is particularly strong in the professional services arena, where INPUT estimates it derived 72% of its 1991 revenues.

Eritel aims to focus on developing its systems integration capability and views this activity as strategic in the continued growth of its business.

Eritel recognises the importance of being in the forefront of technological developments, and invested 9% of 1991 revenues in research and development activities. It has also implemented an ambitious training plan for its employees to ensure that staff are well versed on the latest technological advances.

Eritel's main market is the telecommunications sector, which contributes 38% of its revenues. However, a significant portion of this may come from Telefónica de España a major shareholder in Eritel.

Eritel does not have a European presence outside the Spanish market. The main challenge for the company will be to move into other country markets through acquisition or partnerships and manoeuvre itself into a position where it can compete with other vendors which already have a head start in the Pan-European expansion race.

Cap Gemini Sogeti has a minority shareholding in Eritel, so it is conceivable that Eritel will form partnership agreements with some of the CGS companies throughout Europe.

GE INFORMATION SERVICES

Via San Gregorio, 34
1-20124 Milan, Italy
Tel: 39 2 667051

Vice President Europe: Giuliano Venturi
Status: Division of General Electric Company
Total Employees: 2,500
Total Revenue, Fiscal Year End 12/31/92:
European Revenues $235 million (Non-captive)(INPUT estimates)

The Company

GE Information Services offers a portfolio of network-based information services including electronic commerce (EDI electronic messaging and network management), custom industry applications (banking and financial services, retail and trade and transportation, computer hardware and software for example), cross-industry applications (channel management systems and sales and marketing communications systems), network and processing services, systems development and consulting to more than 13,000 clients world-wide. These services are supported by a team of information specialists in 35 countries.

- GEIS was formed in 1979 as General Electric Information Services Company (GEISCO) to consolidate General Electric Company's (GE) MARK II world-wide interactive and remote batch processing services, originally introduced in 1965 under the MARK I name as the first interactive processing service commercially available in the U.S. The organisation unified the U.S. operations handled by GE's Information Services Division, with European and Australian operations run by Honeywell. Honeywell retained a 16% interest in GEISCO until January 1972, when GE purchased Honeywell's interest for approximately $70 million.

- On January 1, 1984, GEISCO once again became an internal component of GE and its legal name became GE Information Services.

- GEIS now reports directly into General Electric as one of the 13 key businesses.

INPUT estimates that GEIS's 1992 European Information Services revenue was approximately $235 million non-captive (from clients outside the parent GE company).

- The company had more than 13,000 clients by the end of 1991 compared to 10,000 clients in 1990.

- Revenue provided to various units of General Electric Company is estimated at approximately 5% of total revenue.

Effective October 1989, Hellene S Runtagh was appointed President of GEIS, replacing James McNerney Jr. In addition to this, Hellene Runtagh was appointed Vice President and Chief Information Officer of Corporate Information Technology effective October 9th 1992.

GEIS' primary competitors include AT&T Istel, BT Tymnet, IBM IN, Infonet, Sprint International and Reuters.

- In the EDI and electronic mail area GEIS also competes with Sterling Software (Ordernet), MCI, AT&T Easylink and various PTT-provided services.

Organisational Structure

Overall European headquarters are in Milan, Italy. European operations are divided by region:

Northern headquarters in the U.K.

Western headquarters in Paris, which is responsible for Belgium, Luxembourg, France and Monaco.

Central headquarters in Cologne, responsible for Germany, Austria, Switzerland, Denmark, Sweden, Norway and Finland.

Southern headquarters are in Milan, responsible for Italy, Spain, Portugal, Greece and Saudi Arabia.

Many of the offices are established through affiliates, e.g., in Finland this is through Nokia, in Spain Teleinformatica. However, the offices in Italy, the U.K., France and Germany are subsidiaries.

Each country office provides the following functions: sales and marketing, customer services and technical development and support. Each office is responsible for its own revenue and sales function with local personnel represented.

The country office takes the account management role and is therefore the client's point of contact. It is responsible for instructing the offices of other countries on their role in servicing a particular client's needs should they require services in these countries.

The company therefore has a national sales force but has a worldwide organisation to draw on for applications and support requirements. The U.K. holds the majority of the large banking accounts.

Key Products and Services

INPUT estimates that in 1992 GEIS earned $185 million from network and processing services, $45 million from professional services and systems operations and the remainder from other activities.

By Network

GEIS offers its clients three delivery systems for its processing/network services as follows:

- The MARK III« Service consists of the following major elements, serving over 8,000 clients world-wide, around half of whom will be based in Europe or will have European operations.

- Foreground Service is the primary offering on the MARK III System, consisting of interactive remote processing on Honeywell/NEC computers. GEIS offers two libraries consisting of over 2,000 software products, a summary of which is found in Exhibit A.

Exhibit A

APPLICATIONS AVAILABLE ON MARK III SERVICE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT AREA
OPERATING ENVIRONMENT . HONEYWELL DPS 90/ACOS 1000 8000 PROGRAMMING LANGUAGES SUPPORTED . FORTRAN 77 - PL/1 . COBOL - BASIC DATA MANAGEMENT SOFTWARE . DMSIII . FLEXIMIS . HISAM . SAS . DM IV . REQUEST . SYSTEM 2000 . SITE II . MARK IV . EPICS . DCM . MARKDATA DATA BUSINESS AVAILABLE . MAP (ECONOMETRIC DATABASE) . CURRENCY DATABASE SERVICE . SECURITIES DATABASE SERVICE . VALUELINE . NEMA (NATIONAL ELECTRICAL MFG.) . DEPARTMENT OF COMMERCE (SIC) . FEDERAL TRADE COMMISSION . CICTBASE . PETROLEUM INSTITUTE . DWIGHTS ENERGYDATA . CORPORATE FINANCIAL DATA SERVICE . BUSINESS AND FINANCIAL DATA BANK . COMMODITY FUTURES . AHAM (HOME APPLIANCE MFG) . DOW JONES NEWS/RETRIEVAL . CITIBANK GLOBAL REPORT FINANCIAL APPLICATIONS/TOOLS . LEX 2000 . GENERAL BUSINESS ACCOUNTING . FINANCIAL ANALYSIS FORECASTING . FORECASTING . AUDITING BANKING/CASH MANAGEMENT . GLOBAL RISK MANAGEMENT SYSTEMS . TRADE WATCH . FUNDSNET . LEAPP CHEMICAL COMMUNICATIONS . TELEPHONE CO. OPERATIONS & FINANCE CONSTRUCTION DISTRIBUTION	ELECTRONIC DATA INTERCHANGE . EDI*EXPRESS SYSTEM . SPS CENTRAL ELECTRONIC MAIL . BUSINESS CONNECT . BUSINESSTALK 2000 . QUIK-COMM . QUIKNEWS . X.400 ACCESS ENGINEERING . CIVIL . MECHANICAL . ELECTRICAL AND ELECTRONIC HUMAN RESOURCE MANAGEMENT INSURANCE INVESTMENT RESOURCE MANAGEMENT INVENTORY CONTROL/ORDER SERVICE GRAPHICS AND PLOTTING LINEAR PROGRAMMING MANUFACTURING . INDUSTRIAL ENGINEERING . PLASTIC ENGINEERING . MANUFACTURING MANAGEMENT . NUMERICAL CONTROL . PRODUCTION SCHEDULING . QUALITY CONTROL MARKETING AND SALES MATHEMATICS OPERATIONS RESEARCH AND MODELLING PROJECT PLANNING AND MANAGEMENT SIMULATION MODELING STATISTICAL ANALYSIS AND TRANSPORTATION . MARINE MANAGEMENT . EQUIPMENT MANAGEMENT SYSTEMS - SHIPMENT TRACKING SYSTEM MISCELLANEOUS . GENIE

- Products are developed by GEIS or licensed from major software vendors. These third-party packages are fully supported by GEIS.

. The MARK 3000™ Service is an IBM-compatible companion service to the Honeywell/NEC-based offerings. Remote batch

and interactive processing on large-scale IBM computers is available. Selected applications available on this service are shown in Exhibit B. Usage is split between general business applications and engineering, simulation and statistical analysis applications.

Exhibit B

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
OPERATION ENVIRONMENT · IBM 3081, MVS, TSO, CGS · IBM 4381, VM · IBM 9000 PROGRAMMING LANGUAGES SUPPORTED · FORTRAN 77 · COBOL · PL/1 · BASIC UTILITY SOFTWARE · LIBRARIAN PRODUCTIVITY TOOLS · ACCOLADE · DOS/OS CONVERSION PACKAGE · ISPF/PDF DATABASE MANAGEMENT · FOCUS · IDMS · SQL/DS FINANCIAL APPLICATIONS/TOOLS · GENERAL ACCOUNTING · FINANCIAL PLANNING (PCP - EPS - IPPS) · FORECASTING (SIMPLAN) · BUDGETING AND MODELING (CPL/TACTIX) GRAPHICS · TELL-A-GRAPH · DISSPLA · GDDM STATISTICS · SAS	OTHER INFORMATION MANAGEMENT · OCF · OXYCALC · MEGACALC · SCRIPT/VS · WYLBUR PROJECT MANAGEMENT · PROJACS · PROJECT/2 SCIENTIFIC AND ENGINEERING · SUPERB · CIRCUIT ANALYSIS · ASTAP ORDER SERVICE MANUFACTURING · PLASTICS ENGINEERING DISTRIBUTION · VEHICLE ROUTING · VSPX (VEHICLE SCHEDULING) MATHEMATICS · MPS III · MPSX/370 · SPSS PLANNING AND MODELING · SMOP (PRODUCTION SCHEDULING) · CSMP III (SIMULATION) · DYNAMO III/F (SIMULATION) · GPSS V (SIMULATION) · KETNET · MAGEN (MATRIC GENERATOR) OTHER · GE*TUTOR

- The MARK 9000SM Service, announced in January 1988, is a bundled offering of IBM MVS/XA operating environment processing, storage and IBM-compatible network services.

- The service is targeted to clients whose business requirements include multiple, distributed 9370s, remote access to one 9370, the integration of their 9370 systems with other mainframe systems, or a CICS capability. It can be used for departmental processing: development, prototyping and conversions; in distributed configurations for store-and-forward processing and network switching/management; and as a component in

custom systems for vertical applications, disaster recovery and remote facilities management.

- The MARK 9000 Service is available in Europe and the U.S. GEIS already has several contracts from the U.S., France, Italy and the U.K. Current clients include National Westminster Bank.

· The GEIS Network is the company's world-wide teleprocessing network based on a proprietary packet-switching protocol. It permits multi-site organisations to achieve data transmission to dispersed terminal and host computers around the world with approximately 600 access points in the U.S. and in-country direct access in 35 countries.

- The GEIS network supports asynchronous, IBM-compatible synchronous (Including 3270 BSC, 3270 SNA/SDLC, 2780/3780 BSC, 3770 SNA, LU6.2) and X25 protocols.

- In addition to supporting SNI interconnections among SNA networks, it offers a variety of error-correcting protocols, such as MNP and XMODEM, and it provides 3270 emulation via NET*CONNECT 3270 and Simrue's Simware 3278, SIMPC and MAC3270.

By Application

GEIS services are categorised into the following application areas:

· Electronic Commerce Services

- Electronic Data Interchange (EDI)

- Business Communications Products and Services

· Financial Information Services

· Value-Added Network Services

· Managed Network Services

· On-Line Consumer Information Services

Electronic commerce services (EDI, electronic messaging and network management) provide an external, customer-centred orientation for GEIS' value chain and industry focus perspective. Electronic commerce is designed to link an increasing number of business functions and relationships electronically. These services

increase in value as the number and variety of links among customer and overlapping communities expand over time. GE Information Services strategic direction is closely aligned with electronic commerce because it will enable its customers to significantly improve their customer satisfaction and productivity by linking their business community electronically.

Financial Information Services

GE Financial Information Services, a unit of GEIS formed in 1989, supports international network applications for banking and financial institutions. GEIS offers the following products/services which are generally used as part of a distributed processing service:

- ORDEX is an online order routing service, developed for the futures and options industry, linking brokers and investors electronically. Based on UNIX and Windows, ORDEX addresses all the major parts of the trading cycle.

- FUNDSNET Money Transfer Systems is a microcomputer-based, automated money transfer service targeted to corporate treasurers. Through a joint marketing agreement with Racal-Guardata, the Money Transfer Systems includes end-to-end authentication as a means of protecting the money transfer instructions.

- FUNDSNET Balance Reporting System is an automated balance and transaction reporting service used by corporate clients to manage their global cash in an environment of differing time zones and multiple currencies.

- RXM is a network-based management package designed to accommodate a variety of exposure management environments. RXM monitors the Foreign exchange and money markets as well as managing and monitoring exposures in other areas such as securities, commodities and precious metals.

- TRADEWATCH, introduced in September 1989, is a settlement instructions and reporting system for international securities settlement institutions.

- LEX 2000 financial consolidation and reporting software was developed to address the need to consolidate financial information in multi-divisional companies, regardless of size. It resolves differences of disparate accounting systems, foreign currencies, intercompany eliminations, amongst other issues faced by large multinationals.

Electronic Data Interchange Products and Services

EDI Products and services support the electronic processing and transmission between trading partners of standard formatted data for business documents in a variety of public and private formats using different protocols and access methods.

- GEIS' EDI services are used by clients in the trade and transportation manufacturing and retail industries. GEIS' EDI network currently connects almost 13,000 trading partners worldwide, growing 40% annually.

- The EDI EXPRESS System, introduced in November 1985, provides the capabilities for sending, receiving, translating and compliance checking of EDI messages. The system also provides document and/or interchange level auditing and reporting to the user for tracking and monitoring system usage.

- Two levels of service are available, the Interchange Level Service, announced in December 1989, enables customers to select a level of service commensurate with the requirements of their applications.

  The service performs control verification and provides tracking reports for interchanges. The Document Level Services, available since 1987, offers network control verification and tracking at both the interchange and document levels.

- EPC*EXPRESS™ Service, introduced in January 1990, permits EDI*EXPRESS clients to initiate electronic payments to their vendors.

- The EDI*PC™ System, introduced in November 1985, is a software package for IBM and compatible microcomputers that allows trading partners to send and received EDI documents and status reports in a standard format to and from the EDI*EXPRESS System. It can be used as a workstation or as a front-end to an in-house computer for translation. The software licence is $1,450.

- The EDI*BENCHMARK™ System and a PC product called MAPMATE have been developed to provide EDI access for MVS machines. MAPMATE provides an easy-to-use process for mapping internal file formats to standards.

- The EDI*CENTRAL™ System, introduced in July 1988, is a mainframe software package supporting COBOL 74 for mainframe EDI gateways supporting multiple distributed business applications. It allows the client to send EDI data to and from its in-house application system, and provides EDI translation between application data and EDI standard formats.

- The EDI*TRANSIT™ is an EDI product that provides mapping and translation functionality for UNIX and PC/DOS operating environments.

- The DESIGN*EXPRESS™ System is a family of products that allows engineering/manufacturing design data to be processed and transmitted electronically in several types of document formats. DESIGN*EXPRESS products became commercially available in the U.S. in 1989. Not available in the U.K.

- UPC*EXPRESS Catalog is a service that manages and distributes Universal Product Code (UPC) numbers and their description information for vendors and their retailers. This database of UPC information is integrated with the EDI*EXPRESS System so that vendors and retailers can use EDI to electronically maintain and receive UPC catalog updates.

- GEIS also supports several private and industry association networks, including Catspeed (Caterpillar Tractor Company's private EDI implementation), Haggar Apparel Company's HOP (Haggar Order Processing), LeviLink (Levi-Strauss), PetroExx (the Petroleum Data Exchange System). The Poland Transnet (operated by the Motor Equipment Manufacturers Association, Englewood Cliffs, NJ).

Other EDI-related activities include the following:

- GE Information Services Limited joined with ICL (now 80% owned by Fujitsu of Japan) to form International Network Services Ltd (INS), offering EDI services in the U.K. In 1992 GEIS exercised its option to acquire an additional 10% of the shares bringing GEIS' total interest in INS up to 50%. In February 1989, INS launched its international "Bridge", joining the INS U.K. EDI services to the EDI service provided by GEIS.

- GE Information Services Ltd was selected by CEFIC, the European Council of Chemical Manufacturers' Federations, as the single clearing-house to provide EDI services to the CEFEC EDI trial for the European Chemical Industry.

  - In May 1988, GEIS was selected by the Port Authority of New York and New Jersey to provide the EDI*EXPRESS System for the Port's Automated Cargo Expediting system. The system became commercially available in May 1989.

- GEIS has EDI-related alliances with various third parties to sell its services along with their software and equipment. The company currently has agreements with:

  - ACS Network Systems (Concord, CA) for sales to the apparel industry.

  - American Business Computer (Farmington Hill, MI) for the automotive industry.

  - Can/Am Tech (Hamilton, Ontario) for sales and support in the metal industry.

  - Microdynamics (Dallas, TX) for marketing (DESIGN*EXPRESS) to the sewn goods and apparel industry.

  - Supply-Tech (Southfield, MI) for sales to the automotive industry.

- GEIS also provides EDI implementation services, including training, conducting trading partner conferences, follow-up conferences with technical support, developing specialised test procedures, customising documentation, and providing overall project management.

Business Communications Products and Services

GEIS offers a family of products for office communications and automation linking geographically dispersed operations via its world-wide teleprocessing network.

- The BusinessTalk™ System 2000 is an intelligent communications capability designed to process, distribute and retrieve information for members of a geographically dispersed business community via the MARK III Foreground Service through an Apple Macintosh, Windows or DOS IBM PC-compatible computer. BusinessTalk 2000 combines the functions

of textual databases with a key work search, bulletin boards, electronic mail and graphics.

- The QUIK-COMM™ System is a global electronic mailbox service that is designed to integrate multisite, multinational business communications for public and private mail systems. The system accommodates eight languages in addition to English.

Computer Hardware and Software

The GEIS network uses over 6,000 processing and communications computers. Over 400 of these are BULL.PMSDs used to handle communications. Large-scale IBM, BULL and NEC processors are concentrated in supercentres in Rockville, Cleveland and Amstelveen, The Netherlands. These consist of:

- Twenty-seven BULL/NEC DPS90/ACOS 1000s and two BULL DPS-9000s operating under GEIS proprietary software for interactive processing, on the MARK III service.

- One IBM 3090, one IBM 3081, one IBM 9121 and one IBM 4381 for interactive and remote batch processing on the MARK 3000 Service.

GEIS's teleprocessing network handles over 400,000 user sessions per day, transmitting over 2,000 million characters of data in and out of the system per hour.

The network uses VSAT satellite links, microwave links, 25 transoceanic undersea cables and 350,000 miles of land-lines.

- Telex Access permits QUIK-COMM users to send messages to and receive messages from Telex addresses during a QUIK-COMM session.

- QUIK-GRAM™ Service enables QUIK-COMM users to deliver electronically produced paper mail messages to virtually anyone with a U.S. or Canadian postal address.

- QUIK-COMM to FAX allows QUIK-COMM messages to be sent directly from a PC to fax machines.

- QUIK-COMM Service Connectors are interface capabilities that permit users of IBM PROFS, DISOSS, DEC All-in-1, Wang OFFICE, Rydex Messaging System (IBM AS/400 or System/3x), 3 + Mail LAN System, CC: Mail and many more LAN Systems to send messages/documents to QUIK-COMM users.

- In October 1989, GEIS announced the commercial availability in the U.S. of X.400 standard access to the QUIK-COMM family of products. In February 1990, GEIS announced an X.400 interconnect to Western Union's EasyLink electronic messaging service.

- In March 1991, GE announced that it had a contract from the Netherlands Ministry of Internal Affairs agency (called GDA) to develop and operate an electronic message handling service for Dutch government and municipal office (some 1,000 offices all told). This X.400-based service follows from a pilot service set up for GDA in 1987.

- GEIS has X.400 service interconnection agreements with the vendors and services listed in Exhibit C.

Exhibit C

VENDORS	COUNTRY	SERVICE
AT&T	US	ATTMAIL
BT Tymnet	US	DIALCOM
IBM IN	GB	IBM 400
MCI	US	MCI
Sprint Int'l (U.S.)	US	TELEMAIL
Sprint Int'l (U.K.)	GB	TMAILUK
Western Union	US	WESTERN
UNION		
Helsinki Tel co	FI	ELISA
Radio Austria	A	ADA 400
Swiss Telecom	CH	ARCOM
BT Plc	GB	GOLD 400
PTT Netherlands	NL	NET 400
Norwegian Telecom	N	TELEMAX
Finnish PTT	FI	MAILNET
Swedish Telecom Int'l	S	TEDE 400
Deutsche Bundepost	D	TELEBOX
Radio Austria	AU	RAC MHS
France Transpac	F	ATLAS 400

Agreements with 12 others are under negotiation.

Value-Added Network Services:

The MARK*NET Service is a value-added network service offered only to clients in the U.S. and Canada through direct access, based on the GEIS Network and local support services in both countries:

- A MARK*NET client who has users outside of North America typically accesses the service via Public Data Network (PDN) access in the local country, interconnected to MARK*NET via

International Record Carrier (IRC) gateways. GEIS provides international access to MARK*NET in this manner from approximately 70 countries.

- MARK*NET Service has all the technical functionality inherent in the GEIS network, including multiple protocol support, protocol, conversion services, error correcting protocols, full network redundancy, a security administration and control systems, and on-line monitoring capabilities.

- Access nodes included dedicated leased line access, private dial access and public dial access.

Managed Network Services

Managed Network Services (MNS), introduced in 1987, is a specialised teleprocessing service that provides client organisations with custom-tailored network and session management to their international information and communications systems. It is sold world-wide and in June 1991 had over 100 clients.

MNS is a single, integrated service that provides the following:

- GEIS consultants, with expertise in applications, networking and client support, prepare tailored proposals designed for specific client requirements.

- Network and session management using MNS Session Manager, a network management teleprocessing application.

- Support in managing the global integration of information by co-ordinating with third-party vendors such as Postal Telephone and Telegraph (PTT) authorities and by offering the client a single world-wide contract.

- World-wide support 24 hours a day, seven days a week once service is in place.

There are currently approximately 100 multinational clients using MNS, approximately 50% of which are Europe-based companies.

On-line Customer Information Services

GEnie™ (GE Network for Information Exchange) is an electronic consumer information service (not available in the U.K.) for minicomputer end users.

- GEnie permits access to a variety of services, including news and information, financial, travel, shopping, computer games and references, electronic mail and real-time conferencing.

- Services added to GEnie during 1989 include Charles Schwab's discount brokerage and investment information services, Newsbytes News Service and the Executive Desk Register of Publicly Held Corporations.

- In October 1989, GEIS announced expanded GEIS service access to 166 cities throughout Canada via Telecom Canada's iNett 2000 gateway service.

- First marketed in October 1985, GEnie now has 350,000 users throughout the U.S. and Canada and in 20 cities in Japan.

- By June 1991, it was available in Europe in Austria, Germany and Switzerland.

Other network-related announcements include the following:

- In June 1989, GEIS signed a joint venture agreement with STET, the telecommunications and electronics holding company of the Italian industrial conglomerate IRI.

  - Under the agreement, STET acquired a 40% interest in GEIS Italy, GEIS's wholly-owned subsidiary in Italy. The company will be operated as a joint venture of STET and GEIS to provide value-added network services in Italy.

  Professional services provided by GEIS systems development are consulting, training and documentation services.

Geographic Markets

GEIS products and services are offered through approximately 50 U.S. offices and offices in 34 countries, with global support and access provided by distributors, affiliates, or private data networks in 60 additional countries.

- U.S. regional offices are located in New York City, Atlanta, Chicago and San Francisco.

- International offices are located in Australia, Austria, Belgium, Canada, France, Germany, Hong Kong, Iceland, Italy, The Netherlands, Norway, Singapore, Spain, Sweden, Switzerland, and the U.K.

Software Development Centres are located in Rockville (MD), Nashville (TN) and Dublin (Ireland).

GEIS's network provides clients with local dial-up services in 750 cities in 35 countries world-wide and is available 24 hours a day, seven days a week, 365 days a year. Coverage is extended to an additional 75 countries by interconnections with public data network and International record carriers.

Financial Information

As a division of General Electric Company, GE Information Services does not describe its financials separately.

Accordingly, a five-year financial summary for the GE group is shown in Exhibit D and a summary for GE Technical Products and Services, into which GEIS is categorised, is shown in Exhibit E.

Exhibit D

FIVE-YEAR FINANCIAL SUMMARY FYE 31-12 ($ MILLIONS)
(GE CONSOLIDATED GROUP REVENUES - WORLDWIDE)

	1988	1989	1990	1991	1992
Revenues	44,652	49,135	52,619	54,629	57,073
Annual Growth Rate (%)		10%	7%	4%	4%
Operating Profit	4,096	5,021	5,485	5,726	6,273
Annual Growth Rate (%)		23%	9%	4%	10%

Exhibit E

FIVE-YEAR FINANCIAL SUMMARY FYE 31-12 ($ MILLIONS)
(TECHNICAL PRODUCTS AND SERVICES CATEGORY - WORLDWIDE

	1988	1989	1990	1991	1992
Revenues	3,956	4,049	4,259	4,686	4,674
Annual Growth Rate (%)		2%	5%	10%	0%
Operating Profit	443	538	538	693	912
Annual Growth Rate (%)		21%	0%	29%	32%

Exhibit F

1992 MARKET ANALYSIS BY COUNTRY
EUROPEAN INFORMATION SERVICES

COUNTRY	REVENUES* ($ MILLIONS)	PERCENT
France	35	15
Germany	15	6
U.K.	70	30
Italy	30	13
Netherlands	2	1
Belgium/Lux	4	2
Spain	49	21
Switzerland	5	2
Austria	2	1
Sweden	7	3
Denmark	4	2
Norway	4	2
Finland	2	1
Ireland	2	1
Portugal	7	3
Eastern Europe	1	0
TOTAL INFORMATION SERVICES	235	100

Note: Numbers are rounded

* INPUT estimates

Exhibit G

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE
EUROPEAN INFORMATION SERVICES

DELIVERY MODE	REVENUES* ($ MILLIONS)	PERCENT
Professional Services	10	4
Systems Operations	35	15
Network Services	105	45
Processing Services	80	34
Total Software and Services	230	98
Equipment/Other Revenues	5	2
TOTAL EUROPEAN REVENUES	235	100

* INPUT estimates

Exhibit H

1992 MARKET ANALYSIS BY INDUSTRY SECTOR
EUROPEAN SOFTWARE AND SERVICES

INDUSTRY SECTOR	REVENUES* ($ MILLIONS)	PERCENT
Discrete Manufacturing	60	26
Process Manufacturing	25	11
Transportation	5	2
Utilities	5	2
Telecommunications	5	2
Retail Distribution	5	2
Wholesale Distribution	5	2
Banking and Finance	60	26
Insurance	10	4
Health care	5	2
Local Government	5	2
National Government	25	11
Business Services	5	2
Other Industries	5	2
TOTAL SOFTWARE AND SERVICES	230	100

*INPUT estimates

Note: Numbers are rounded

Company Strategies

Company Direction

GE Information Services objectives are:

- To provide a comprehensive range of services, to create and support information systems by deploying the appropriate telecommunications, processing and software technologies and thereby:
  - secure long-term, evolving service business through a close relationship with the client company.

Its overall strategy is to provide highly customised systems through the exploitation of the base enabling technologies such as EDI and messaging services. The company aims to offer a 'complete service deployment function' with the use of third-party services where necessary.

An entry-level approach is taken through integrated messaging services, i.e., the bulletin boards, databases, EDI, X.400/X.500 and business messaging services. The company is taking the 'electronic commerce' approach through the integrated sales of these services, rather than simple service sales.

At a higher level the approach is to focus on functional applications and specific targeted vertical industry sectors.

The company is concentrating on a change of focus from processing the other network services to consultancy. Currently, however, INPUT estimates that only 4% of the company's revenue is generated through professional services. Additionally, the target markets which are to be focused on are:

- Transport
- Retail
- Banking and Finance.

GEIS is particularly cultivating a consultative approach to clients with the ultimate goal of being recognised as major systems integration vendors. One aim to facilitate this is to develop and strengthen partnership relationships. Partnerships are being nurtured through the establishment of joint development projects as well as service provider/client relationships.

Strengths and Weaknesses

GE Information Services' main strengths can be summarised as follows:

- Worldwide Presence
- Strong Parent Company
- Networking Expertise
- Industry Expertise (i.e., Banking and Finance)
- Large Customer Base.

The greatest strength of GE Information Services as an international data carrier is its strong global presence. Such a presence is becoming critical to success in the international network services market. Customers who must manage multinational networks increasingly demand support in and not just access to and from, the countries where they maintain computer installations.

Another strength of GE Information Services is its ownership. It is a component, and thus has the financial backing, of General Electric Company (GE). GE is one of the world's largest corporations, with 1991 revenues in excess of $600 billion. Apart from being major clients of the company's services, GE has also been operational in GEIS' expansion with Eastern Europe. The

network now has connections into Leipzig, Dresden and East Berlin with an access mode in Prague.

GE Information Services has two super centre teleprocessing centres in the U.S., complemented by a supercentre in Amsterdam. This base helps make the company one of the dominant forces in the managed network services market and a major European vendor of network applications for banking and finance.

GE Information Services has particular expertise in providing services to the Banking and Finance sectors. It offers a number of products and services through its Financial Information Services unit. Set up in 1989, GE Financial Information Services supports international network applications for bank and financial institutions. Product offerings range from a system for money transfer to a settlement instructions and reporting system.

The company has an impressive client base with over 13,000 clients, worldwide. The majority of these clients are multinational companies and organisations in the banking and finance, retail, transportation and information provision sectors.

GEIS is very well established internationally with approximately 50% of its revenue derived from outside the U.S. INPUT estimates in 1991 that the revenue in Europe itself totalled $235 million. The company plans to continue to favour growth organically rather than through acquisition.

The main challenge for GEIS is to increase skills and resources sufficiently to meet its goal of becoming a total solutions provider.

One way of enhancing its service range and improving its vertical expertise would be to acquire a few niche companies. However, as mentioned above, GEIS is not planning any acquisitions in the foreseeable future.

Conclusions

GE Information Services integrates its networking, processing and software application skills to deliver customised information solutions for customers worldwide. It operates the world's largest commercially available teleprocessing network and is independent of computer manufacturers.

GE Information Systems is a major European vendor of network applications with particular emphasis on banking and finance. Some applications exist as "core" products to service areas of specific client interests.

Other applications are developed for clients on a custom built basis.

The company aims to control the distribution of software within an organisation, transfer data between micros and mainframes, and most significantly, to do this on a global network backbone. GEIS customers can use GEIS's own network-based Bull/NEC computing service, as well as an IBM compatible network-based service operating on IBM 3090, 3081 and 4381 platforms and running under MVS/XA and VM/SP HPO operating systems.

The company is concentrating on functional processes as it accepts that it cannot add value in all market sectors. Functional areas include customer support, sales and marketing, and finance. These neutral functions are designed to apply to most organisations irrespective of their industry sectors to enable the company to enter markets where it has no specific industry expertise and therefore to broaden its customer base.

The concentration on vertical industries is to facilitate the provision of complete services for these particular industries, rather than attempting to be in a position to offer everything in every industry sector.

Although currently 30% of the company's revenue is generated through banking and finance, the majority of this revenue is estimated to derive from processing services rather than network applications services. The company does, however, have the opportunity to leverage business from these processing services customers. Concerning transport and retail however, INPUT estimates that in total GEIS generates little of its revenue through these customers. The company does, however, have connections to these industries through INS, which has a very strong customer base, particularly in the U.K. retail market, through its EDI service.

COMPANY PROFILE

GROUPE AXIME
137 Bd Voltaire
75012 Paris
France
Tel: 33 1 40 90 30 00
Fax: 33 1 43 56 26 02

President: Bernard Bourigeaud
Number of Employees: 2,700
Revenue (FYE 30-06-93) Budgeted FF1.9 billion

The Company

The Axime Group was founded in 1990, the result of the merger between the French companies FITB, Segin and Sodinforg.

With revenues of FF2.16 in 1991/2 and budgeted revenues of FF1.9 billion in 1992/3, Axime is the third largest software and services company in France. It is the market leader in the banking, finance and insurance sectors in France.

Its shares are quoted on the "second marchi," the French unlisted securities market.

Financial Information

Exhibit A

THREE-YEAR FINANCIAL SUMMARY (FYE 30-6) FF BILLIONS

	1990/1	1991/2	1992/3
REVENUE	2.1	2.2	*1.9
ANNUAL GROWTH RATE %	N/A	< 1%	(1%)

Source: Axime * *Budgeted revenue*

Note: Axime was founded in 1990. Accordingly, the first reported accounts for the group are at 30-6-90. Exhibit B shows the revenues for FITB, Segin and Sodinforg before the merger.

Exhibit B

PRE-MERGER REVENUES

COMPANY	1989 REVENUE	EMPLOYEES
FITB	704	1,400
SEGIN	520	1,100
SODINFORG	545	1,200

Source: Axime

Exhibit C

SHAREHOLDERS

SHAREHOLDERS	PERCENT
Paribas - Cridit du Nord	35.24
Banexi (BNP)	4.02
DEFI	10.86
Groupe ginirale des eaux	25.18
Public	24.70

Source: Axime

Market Analysis

Exhibit D shows the breakdown of Axime's revenues by industry sector.

Exhibit D

ESTIMATED REVENUES BY INDUSTRY SECTOR, AXIME, 1992

	REVENUES ($ MILLIONS)	SHARE (%)
Discrete Manufacturing	24	6
Process Manufacturing	12	3
Transportation	17	4
Utilities	0	0
Telecommunications	40	10
Retail Distribution	12	3
Wholesale Distribution	12	3
Banking and Finance	202	49
Insurance	61	15
National Government	7	2
Business Services	16	4
Systems Software Products	8	2
Total Software and Services	411	100

Axime and INPUT estimates

Exhibit E provides a breakdown of Axime's revenues by INPUT delivery mode.

Exhibit E

ESTIMATED REVENUES BY DELIVERY MODE, AXIME, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	8	2
Application Software Products	12	3
Turnkey Systems	58	14
Professional Services	164	40
Systems Integration	24	6
Systems Operations	17	4
Network Services	13	3
Processing Services	115	28
Total Software and Services	411	100
Total European Revenues	411	100

INPUT Estimated software and service revenues

Exhibit F

ESTIMATED REVENUES BY COUNTRY, AXIME, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	395	96
Germany	5	1
Belgium/Lux'	3	1
Spain	7	2
Total Information Services	411	100

INPUT Estimated software and service revenues

Organisational Structure

The company is currently organised into the following business areas:

- **Data Processing and Facilities Management** -The Axime Services operation, reporting to Jean-Luc Lenart, provides bank/finance processing, management of payment methods, telematics, Facilities Management and VANs. It consists of Segin, SITB/Ageris, FLOW and ATM.

- **Development & Systems Integration** -The Axime IIS operation provides software, systems integration, consulting, development, software packages for finance, support and training. It includes Axime Intigration de Systhmes, under Jean-Paul Rossiensky, and Axime Inginierie, under Charles Chevalier.

- **Direct Marketing Logistics** -This operation consists of Altek and is run by Pascal Bono. It offers database management, data trading, printing and routing services.

- Groupe AXIME also has an *international* division and operates the following companies:

  ODS (Spain)
  ODS (Portugal)
  Axime (Belgium)
  Axime GmbH (Germany)
  Segin Benelux
  Segin Italia (Italy).

Recent Major Projects

Exhibit G shows examples of clients for whom Axime has carried out major projects.

Exhibit G

MAJOR CLIENT PROJECTS, AXIME

Data Processing
-Baring Securities
-CAIXADE CATALUNYIA
Audiotex
-La Poste
-CCS Banque
Systems Integration
-Crédit Agricole
-BNP
-Paribas
-Societe Générale

Key Products and Services

1. Processing and Value Added Network Services

Processing:

- Axime Processing services are structured around the following areas of activity:
- Logging and processing of bank cards. Axime has two processing centres which handle over 330 million transactions a year.
- Delivery, installation and maintenance of electronic payment terminals. (45,000 maintained.)
- Automatic banking terminal/cash dispenser management and payment authorisation.
- Cheque and bank giro transfer processing. The company handles over 100 million transactions per year.
- Clearing: The company carries out daily processing of regional clearing operations in Lille and Bordeaux for the Banque de France.

Telematics:

Axime has a multimedia information retrieval centre from which it offers a number of services. The company provides audiotex and videotex applications to the banking and insurance, communications, distribution, manufacturing, publishing and audit service sectors.

The company claims to have the first European private home and office information network using standard protocols, accessible from Germany, Belgium, Italy, Great Britain, Portugal, Switzerland, Spain and the Netherlands.

Axime also provides TELEROUTE, an EDI service used by 20,000 road haulage companies.

2. Facilities Management

Axime's Facilities Management operation is primarily focussed on the industry sectors where the company has specialised with its other service offerings, mainly banking and finance, manufacturing and distribution.

3. Software Engineering and Systems Integration

Axime acts as partner to its clients by offering a range of services aiming to provide companies with optimum information systems. The group installs equipment, integrates systems and provides consultancy, network related services and maintenance. The company is using its SI expertise in the establishment of SIMON (Système d'Information Monétique National - national plastic money information system) for the Crédit Agricole. SIMON will be one of the largest interbank networks in the world.

4. Software Products

Axime's software products are divided into two main groups:

Banking and Financial: Solutions to manage all banking and stock market operations.

Systems and Networks: Solutions to automate and ensure integrity of data interchange between machines, applications and sites of one or more companies.

5. Training

Axime offers a wide range of training courses - 17 of which are approved by the Fonds d'Assurance Formation Ingénierie Etudes Conseil (FAFIEC).

6. Direct Marketing

Axime covers all the logistic requirements of telephone or catalogue sales and direct mail operations through its direct marketing operation, Altek.

Company Direction

Axime intends to expand geographically both in France and in other countries in Europe by developing its activities on an international level and its partnership agreements in certain sectors.

The strategic objectives of Axime can be summarised as follows:

- To remain the French leader of specialised services within the financial market (banking, finance and electronic transfer of payment) and telematique, in terms of revenues and number of employees.
- To be among the market leaders in the areas of software development and direct marketing.
- To offer a wide and competitive range of products and services.
- To expand through Europe.

Axime's services mostly address the banking and insurance, communications, distribution and manufacturing sectors. The company is particularly strong in the areas of Electronic Funds Transfer, Data Communications and Direct Marketing.

Axime claims to be the French leader in provision of software engineering services to the banking sector.

Currently, Axime does not have a significant presence outside France; only 4% of 1992 reported revenues come from subsidiaries in Spain, Belgium, Germany and Italy.

How successful Axime will be in expanding outside of France depends on how quickly and effectively it can increase revenues in the countries where it already has a presence, and on its ability to form working partnerships with other European vendors and distributors, particularly in the finance sector where it is strongest.

GSI (GENERALE DE SERVICE INFORMATIQUE)
25 boulevard de l'Amiral Bruix
75782 Paris Cedex 16
France
Tel: 33 1 45 02 74 75
Fax: 33 1 45 00 59 43

President: Jacques Raiman
Directeur General: Jacques Bentz
Number of Employees: 3,616
Revenue (FYE 31-12-92): FF 2,573 million

The Company

GSI was created in 1971 by CGE (Compagnie Gènèrale d'Electricitè). It subsequently became a subsidiary of Alcatel-Electronique (part of the CGE group).

In November 1987, the employees of GSI took control of 70% of the shares of the company. More than half of the employees of GSI are now shareholders.

GSI operates in 14 countries in Europe, North America and Asia.

Its revenue sources are categorised as shown in Exhibits A and B.

Exhibit A

REVENUE BY APPLICATION

Pay-roll/Human Resources	30%
Logistics/Operations	35%
Banking	9%
Tourism/Specialist	26%

Source: GSI

Exhibit B

REVENUE BY SERVICE TYPE

Outsourcing/Application Management	54%
Product related	27%
Consulting/Integration/Development	19%

Source: GSI

GSI's major shareholders are listed in Exhibit C.

Exhibit C

SHAREHOLDERS (31-12-1991)

SHAREHOLDERS	% OWNED
GSI-Partners	59.94
GAN	12.36
BNP-Banexi Banque Indosuez Charterhouse	10.66
Initiative & Finance	10.66
Apax Partners et Cie	3.13
Cie Financiere de Rothschild	2.13
Others	1.12

Source: GSI

GSI has a number of French and foreign subsidiaries which are listed in Exhibits D and E.

Exhibit D

FRENCH SUBSIDIARIES	%Owned
Gènèrale de Service Informatique	
99 GSI Division des Banques S.A.	99
GSI Ingènierie et Service S.A.	99
G.S. Informatic S.A.	99
GSI Transport Tourisme S.A.	59
GSI Finances S.A.	99
GSI Enterprise - Centre Français de Recherche Opèrationnelle (CFRO) S.A.	99
GSI Tèlèmatique S.A.	99
GSI Ressources Humaines Progiciels S.A.	99
GSI Tecsi S.A.	69
GSI Services (a grouping of certain subsidiaries) Gènèrale de Service S.A.R.L	99
GSI Vidèographie S.A.	49
GSI ASCII S.A.	99
GSI Motor Trade S.A.	99
GSI Erli S.A.	69
GSI Sceta Informatique Transport S.A.	50
Sesamtel GSI S.A.	57
GSI Contact S.A.	100
GSI TPI S.A.	51
Navitel S.A.	29
GSI Distribution S.A.	99
GSI Systèmes S.A.	99
GSA G.I.E.	48
GSI Ami S.A.	99

Exhibit E

FOREIGN SUBSIDIARIES	% Owned
GSI International (Belgium) S.A.	99
GSI Travel and Transportation Belgium S.A.	59
GSI U.K. Ltd.	99
GSI Travel and Transportation U.K. Ltd.	59
GSI Resource U.K. Ltd.	99
GSI Italia SpA	99
GSI Industria (Italy) Srl	99
GSI Datel (Germany) GmbH	94
Danet (Germany) GmbH	57
Danet I.S. (Germany) GmbH	43
GSI Autocomp (Germany) GmbH	94
GSI Transport & Touristik (Germany) GmbH	59
GSI Suisse S.A.	99
GSI Nederland B.V.	99
GSI Travel and Transportation Nederland B.V.	59
GSI U.S.A. Inc.	99
Transcomm Data System (U.S.) Inc.	99
GSI Danet Inc. (U.S.) Inc.	57
Seresco (Spain), S.A.	99
Tecsidel (Spain) S.A.	79
GSI Transporte y Turismo (Spain) S.A.	59
GSI Incorporated System (Canada) Inc.	99
GSI Transport Tourisme Suisse S.A.	59
GSI Ucoms and its subsidiaries (Netherlands) B.V.	59
GSI Weber und Partner (Germany) GmbH	52
GSI Information Systems Singapore PTE Ltd.	99
Lammert-Paisy (Germany) GmbH	94
GSI Softmark (Germany) GmbH	94

Exhibits F and G provide breakdowns of employees by country and company activity.

Exhibit F

1992 EMPLOYEE ANALYSIS BY COUNTRY

Country	Percent
Belgium	1.8
France	60.8
Germany	10.7
Italy	2.1
Netherlands	2.4
Singapore	N/A
Spain	9.1
Switzerland	1.4
U.K.	6.3
U.S./Canada	5.4

Source: GSI

Exhibit G

1992 EMPLOYEE ANALYSIS BY ACTIVITY

Percent	Activity
23.3	Pay-roll and Human Resource Management
14.6	Business Management
5.9	Motor Trade
12.7	Travel and Transportation
17.0	Advanced Technologies
12.8	Outsourcing
7.3	Telematics
3.5	Headquarters
2.9	Other

Source: GSI

Acquisition History

GSI has made a number of acquisitions increasing its activity worldwide.

- The company acquired 59% of GSI-Ucoms in the Netherlands and 45% of GSI Weber and Partner in Germany, adding depth to GSI's transportation offerings and expanding its activity into Eastern Europe.
- In 1991 the company's activity expanded in North America through the acquisition of IMI System's warehouse management activity (Warehouse Management Systems).
- In October 1991 GSI acquired Lammert, a leading German pay-roll and personnel management company with Paisy software.
- GSI also made an acquisition in France, namely GSI Ami, a pay-roll management company.

- GSI acquired SITB - with 150 bank pay-roll clients - from Axime

Key Products and Services

GSI specialises in the following product groups and business sectors:

(1) Pay-roll and Human Resource Management
(2) Business Management
(3) Motor Trade
(4) Travel and Transportation
(5) Advanced Technologies
(6) Outsourcing
(7) Banking.

(1) Pay-roll and Human Resource Management

This sector offers complete solutions built around packages and computing services to meet personnel management needs in:

- Time Management
- Pay-roll
- Personnel Administration
- Human Resource Management.

By marketing the same line of products Europe-wide, GSI offers compatible multinational information systems.

GSI is represented in Belgium, Canada, France, Germany, Italy, Spain, Switzerland and the U.K., where its services are used by 8,200 organisations.

Products:

- *ZADIG, G-XP, CLIPPER-XP, PAPA-XP:* Software products for pay-roll and personnel management on IBM mainframes, IBM AS/400, Digital and Bull.

- *RESOURCE, KHRONOS-XP, PAYAMI:* Software products for human resource and time management on micro-computers.

- *ZADIG-MX, ZADIG-GP, ZADIG-SX, PAYAMI:* Total service solutions for pay-roll and personnel management.

With the 1991 acquisition of Lammert, GSI now offers the Paisy pay-roll product, used by 1,200 medium to large organisations in Germany. Paisy has also been adopted by approximately 400 organisations operating in eastern Germany.

(2) Business Management

GSI's business management activities are split into three components:

- Distribution management
- Industrial management
- Financial management.

GSI's Business Management activity provides software for production, distribution, accounting and financial control. International development continues with the opening of a branch in Singapore to market Tolas Distribution software in Southeast Asia, and with work under way at new locations in the Netherlands and in Germany.

(Note: GSI has a partnership with Digital for the Tolas Distribution product, for which Digital chose to manage its own European logistics).

TOLAS DISTRIBUTION: GSI has installed this product throughout Europe and the U.S. In 1990, a contract to install information systems for the world logistics facility for Apple Computer, Inc. further reinforced GSI's international capability.

In 1991 GSI signed contracts with Leica, Lever Europe, Philips Consumer Electronics and Vickers.

ACCOUNTING AND FINANCIAL MANAGEMENT: Provides systems engineering services and software packages for building information systems for large and medium-sized companies.

TOLAS FINANCE: This is a software package for IBM large and medium-scale systems (i.e., for 3090 and AS/400 architectures). New clients in 1991 included Leroy Somer, Samaritaine, Technip and Zurich Assurances.

TOLAS PRODUCTION: GSI was the first company in France to offer a "just-in-time" module for computerised production control.

In 1991 the product range for manufacturing was extended by a Unix version of Sofia - for shopfloor planning, and by Tolas Production Open, characterised by its independence from equipment platforms and database management systems.

GSI's world-wide presence in France, Belgium, U.K., U.S., Switzerland and Spain (via a distribution contract with Alcatel Sistemas de Informacion SA) has been increased by new sites in

Italy and Singapore in 1990. GSI acquired a warehouse management system from IMI systems in 1991.

(3) Motor Trade

This area provides sales information systems for automobile manufacturers and importers, fully integrated management for dealers, and information exchange between a manufacturer and his network.

Motor trade activity is organised around three areas of competence:

- DMS (Dealer Management Systems) offers an integrated management system for agencies and dealerships. GSI launched a new version of this product in 1992.

- MSS (Marketing and Sales Services) maintains and manages data banks by industry sector for automobile makers who wish to use their networks as the optimum means to win and retain customers. In 1991, GSI signed a contract with Citro n for this service.

- DDS (Data Distribution Services) supplies data to motor industry network users on such items as required repair lead times and the prices of spare parts. The Menu Pricing Service (MPS) combines all input needed to establish an estimate, enabling dealers and agents to give customers instant, accurate and detailed cost information on repairs. SEAT became a user of this service in 1991.

GSI's network is linked to over 8,000 dealers in eight European countries.

(4) Travel and Transportation

GSI provides information and communication systems for freight carriers and their customers. Areas of expertise are EDI services and links between air freight reservation systems. GSI Travel and Transportation is organised around three main activities:

- Transportation
- Travel
- Clearing.

Transportation

GSI has strengthened its position with the acquisitions of the Dutch company UCOMS, which specializes in the management of road,

air and maritime carriers, and the German company Weber und Partner, a supplier of a micro-computer integrated management system for freight haulers. GSI has a contract for the development and operation of Transponet, an EDI service linking European carriers and their users.

EDI services for Bosch and Unitrans are also being developed by GSI.

Travel

In 1990, the GSI Travel division was named prime contractor for the Eurotop project (the development and distribution of electronic brochures for tour operators). The division was also chosen to head up development of Ulysse, a tourist information database, in partnership with the International Federation of Automobile Clubs, GMF and IBM.

Clearing

In 1990 the clearing division won the contract to design a car rental clearing system between travel agents and Avis, Budget, Europcan and Hertz. The agreement will ultimately apply to 15 countries across Europe.

(5) Advanced Technologies

This division has four distinct units:

- GSI-Tecsi (France)
- GSI-Erli (France)
- GSI-Danet (Germany)
- GSI-Tecsidel (Spain).

The 630 engineers and consultants in the division concentrate on four areas:

- Information Systems Architecture
- Telecommunications
- Real Time Intelligence
- Artificial Intelligence.

GSI provides high-level consulting in all of these areas as well as systems integration work and expert systems.

Telecommunications and natural language specialists worked closely with GSI Travel and Transportation to develop the EUROTOP and ULYSSE software - see above under (4).

In 1990, the expert systems and natural language activities were grouped together in GSI-Erli, placing GSI among the top ranking European companies in artificial intelligence applications.

In 1991, GSI-Erli was awarded contracts by Aerospatiale and INSEE.

In Germany, GSI-Danet claims a leadership position in advanced technology for telecommunications. Its OSI product OSITEL/400 was selected as the X.400 reference installation by the European Open Systems Test Consortium (OSTC) which is used to verify the equivalence of the different conformance testing laboratories.

A consortium of four major German banks has asked GSI-Danet to undertake a study to plan and design a nation-wide telecommunication network that would link more than 8,000 branch offices.

(7) Outsourcing

GSI offers users a total systems engineering facility and service linked to the design and operation of their information system and tailored to their IS policy.

In 1986, GSI installed a network linking together the French government's foreign-based export offices.

The French National Education Ministry asked GSI to create **Edutel**, an internal electronic mail system, with a videotex service centre to transmit news and data to teachers, parents and students. Edutel is currently one of the world's largest videotex service centres.

GSI-Banque has been working on a number of projects with two French banks, Compagnie Financiere de Suez and the Banque Nationale de Paris (BNP).

GSI won the Euro Disneyland facilities management contract in 1989.

(7) Banking

GSI offers to satisfy all the needs of the banking sector from systems design to installation and operation. GSI has also developed an offer of outsourcing systems for the banking industry. Built around Archerys software, which GSI distributes through an agreement with the American specialist banking software company

Systematics, it provides commercial banks with a complete, integrated solution.

GSI has signed an exclusive partnership agreement with Systematics. Products, to which it has access as a result, cover mutual funds and private banking management. GSI claims to have 25% of the employee savings and pension fund management market in France.

Exhibit H

Financial Information

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-12) (FF MILLIONS)

YEAR	1988	1989	1990	1991	1992
Revenues	1,566	1,768	2,044	2,385	2,573
Annual Growth Rate (%)	13	13	16	17	8
Profit before Taxes	92.7	121.2	136.5	164.1	148.9
Profit after Taxes	62.2	79.5	92.8	96.0	84.8
Average number of employees	2,528	2,950	3,302	3,616	

Source: GSI

Exhibit I

KEY FINANCIAL RATIOS

YEAR	1988	1989	1990	1991	1992
Return on sales (%)	5.9	6.9	6.7	6.9	5.7
Return on capital Employed (%)	-	-	46.7	42.2	45
Revenues per employee (FF 000's)	-	699	693	722	711

Source: GSI

Note: Numbers are rounded

Market Analysis

Exhibit J

1992 MARKET ANALYSIS BY ACTIVITY

ACTIVITY	REVENUE (FF MILLIONS)	PERCENT
Pay-roll and Personnel Management	760	29.5
Business Management	373	14.5
Motor Trade	182	7.1
Travel and Transportation	251	9.8
Advanced Technologies	384	14.9
Outsourcing/Application development	623	24.2
TOTAL	**2,573**	**100**

Source: GSI

Exhibit K

1992 MARKET ANALYSIS BY GEOGRAPHIC AREA

GEOGRAPHIC AREA	REVENUE (FF MILLIONS)	PERCENT
France	1,709	66.4
Germany	326	12.7
United Kingdom	105	4.1
Spain	174	6.8
Switzerland	50	1.9
The U.S. and Canada	85	3.3
Italy	42	1.6
Belgium	36	1.4
Netherlands	46	1.8
TOTAL	**2,573**	**100**

Source: GSI

Exhibit L

1992 MARKET ANALYSIS BY INDUSTRY SECTOR, EUROPE, GSI

INDUSTRY SECTOR	REVENUES ($ MILLIONS)	SHARE (%)
Discrete Manufacturing	24	5
Transportation	47	10
Retail Distribution	47	10
Wholesale Distribution	118	25
Banking and Finance	24	5
Business Services	47	10
Cross-Industry Sectors:		
Accounting	24	5
Human Resources	95	20
Office Systems	47	10
TOTAL SOFTWARE AND SERVICES	**473**	**100**

Exhibit M

1992 MARKET ANALYSIS BY INPUT DELIVERY MODE

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Application Software Products	90	19
Turnkey Systems	24	5
Professional Services	92	19
Systems Integration	19	4
Systems Operations	99	21
Network Services	54	11
Processing Services	95	20
TOTAL EUROPEAN REVENUES	**473**	**100**

Source: INPUT estimate

Note: Numbers are rounded

Company Direction

GSI's mission is to integrate software, information, services and computer networks to provide advanced solutions for the information processing, data transmission and management needs of modern corporations.

In 1991, GSI opened a European competence centre for transportation in Rotterdam, and the company is keen to expand its market penetration in its chosen specialties across Europe.

In accordance with the move to object-oriented methods, GSI is in the process of updating its own application software products, and is

In accordance with the move to object-oriented methods, GSI is in the process of updating its own application software products, and is introducing new versions of its automotive dealership management product and its Tolas-Distribution product.

In 1992 the company introduced a new Software Platform division to consolidate its development capabilities for the benefit of the all markets. It expanded the use throughout the company of methods to ensure quality.

Strengths

GSI's strengths include its capabilities in the areas of:

- Logistics flows comprising manufacturing, distribution, transport and financial management - market leader among independent vendors according to INPUT.
- Automobile distribution networks
- Tourism
- Banking
- Human resource management.

Apart from areas such as human resource management, where the company has recently consolidated its European position with the acquisition of Lammert in Germany, GSI has a strong vertical focus based on application software products.

Conclusions

The company monitors the application of new technologies closely and has expertise in artificial intelligence, expert systems and natural language.

The company is also one of the market leaders in both the French and the European outsourcing market, where the company's emphasis is increasingly on application operations utilising the company's vertical market expertise.

COMPANY PROFILE

HEWLETT-PACKARD

Corporate Headquarters
3000 Hanover Street
Palo Alto
California 94304
USA
Tel: 1 415 857 1501
Fax: 1 415 857 5518

European Headquarters
150, Route du Nant-d'Avril
CH-1217 Meyrin 2
Geneva
Switzerland
Tel: 41 22 780 8111
Fax: 41 22 780 8542

President: Lew Platt
Status: Public
Revenues:
Worldwide $16.4 billion
Europe $6.0 billion
Worldwide services $3.5 billion
Number of Employees:
World-wide 92,600
Europe 19,800 (estimate)

The Company

The Hewlett-Packard Company of Palo Alto, California, is one of the world's leading manufacturers of computer and peripheral products and measurement systems, including analytical and medical equipment and electronic components. The company's products are used in industry, business, engineering, science, medicine and education. The computer business represents 75% of Hewlett-Packard's total activity.

In 1992, Hewlett-Packard was ranked 29th largest in the Fortune survey of U.S. industrial companies. In 1992, it reported a worldwide sales revenue of $16.4 billion (1991 $14.5 billion). Of 1992 turnover, 24.7% arose from services, as compared with 23.9% in 1991, and 22.8% in 1990.

The company employs 92,600 people and has operations in more than 100 countries.

European Operations

Hewlett-Packard has been operating in Europe since 1959, when it set up its first manufacturing site outside the U.S. in Boeblingen, Germany.

In 1989, Hewlett-Packard listed its stock in the exchanges in London, Paris, Frankfurt and Zurich.

Hewlett-Packard is active in 27 European countries and also manufactures in the U.K., France, Spain and Italy. In addition to applied research conducted in most European manufacturing facilities, Hewlett-Packard is committed to fundamental research in its laboratories in Bristol, U.K., and its Science Centre in Pisa, Italy. Hewlett-Packard also participates in European Community research projects such as ESPRIT, AIM, EUREKA and RACE.

In addition to Hewlett-Packard's equipment and instrument offerings, the company offers a range of software products for mechanical, design, management information, hospital information systems and manufacturing automation.

As the largest Hewlett-Packard organisation outside of the U.S., European operations in 1992 accounted for $6 billion of sales.

Of 19,800 European employees, 7,100 are in R&D and manufacturing, while 12,700 are in sales and support.

Financial Information

Exhibit A

FIVE-YEAR FINANCIAL SUMMARY (FYE 31-10) $ MILLIONS

CONSOLIDATED GROUP REVENUES

	1988	1989	1990	1991	1992
Revenues	9,831	11,899	13,233	14,494	16,410
Annual Growth Rate%	-	21%	11%	10%	13%
Earnings before tax	1,141	1,151	1,056	1,127	1,325
Annual Growth rate%	-	0.8%	(8%)	7%	18%
Earnings after tax	816	829	739	755	549
Annual Growth Rate%	-	2%	(11%)	2%	(28)

Source: Hewlett-Packard

Exhibit B

FOUR-YEAR REVENUE SUMMARY (FYE 31-10)
TOTAL EUROPEAN OPERATIONS

	1989	1990	1991	1992
Revenues ($ Millions)	4,131	4,764	5,378	6,083
Annual Growth Rate%	-	15	13	13

Market Analysis

Exhibit C

1991/92 MARKET ANALYSIS BY BUSINESS ACTIVITY

ACTIVITY	1991 REVENUE ($ MILLIONS)	1991 PERCENT	1992 REVENUE ($ MILLIONS)	1992 PERCENT
Equipment	11,019	76	12,354	75
Services	3,475	24	4,056	25
TOTAL	14,494	100	13,233	100

Source: Hewlett-Packard

Exhibit D

MARKET ANALYSIS BY GEOGRAPHIC AREA

REGION	1991 REVENUES ($ MILLIONS)	1991 PERCENT	1992 REVENUES ($ MILLIONS)	1992 PERCENT
U.S.	9,613	51%	10,932	50%
Europe	5,789	31%	6,732	31%
Other Areas	3,457	18%	4,235	19%
TOTAL	18,859	100%	21,899	100%
Eliminations i.e. interarea transfers	(4,365)	(23)	5,489	(25)
TOTAL	14,494		16,410	

Source: Hewlett-Packard

Exhibit E

MARKET ANALYSIS BY GEOGRAPHIC AREA -2
UNAFFILIATED CUSTOMER SALES

REGION	1991 REVENUES ($ MILLIONS)	1991 PERCENT	1992 REVENUES ($ MILLIONS)	1992 PERCENT
US	6,390	44%	7,212	44%
Europe	5,378	37%	6,083	37%
Other Areas	2,726	19%	3,115	19%
TOTAL	**14,494**	**100%**	**16,410**	**100%**

Source: Hewlett-Packard

Exhibit F

ESTIMATED REVENUES BY DELIVERY MODE, SOFTWARE AND SERVICES, EUROPE - HEWLETT-PACKARD, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	205	3
Application Software Products	17	<1
Professional Services	120	2
Systems Integration	11	<1
Processing Services	15	<1
Total Software and Services	368	6
Equipment Services	614	10
Total Information Services	982	16
Equipment/Other Revenues	5,085	84
Total European Revenues	6,067	100

**INPUT estimates*

Exhibit G

ESTIMATED REVENUES BY COUNTRY, INFORMATION SERVICES, EUROPE - HEWLETT-PACKARD, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	155	16
Germany	185	19
U.K.	240	24
Italy	95	10
Netherlands	51	5
Belgium/Lux'	38	4
Spain	81	8
Switzerland	38	4
Austria	20	2
Sweden	22	2
Denmark	14	1
Norway	9	1
Finland	2	<1
Ireland	15	2
Portugal	10	1
Greece	1	<1
Eastern Europe	1	<1
Europe Balance	2	<1
Total Information Services	982	100

**INPUT estimates*

Exhibit H

ESTIMATED REVENUES BY INDUSTRY SECTOR, SOFTWARE AND SERVICES, EUROPE - HEWLETT-PACKARD, 1992

	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	42	11
Process Manufacturing	13	4
Transportation	2	1
Utilities	6	2
Telecommunications	4	1
Retail Distribution	1	0
Wholesale Distribution	6	2
Banking and Finance	24	7
Insurance	1	0
Healthcare	7	2
Education	2	1
National Government	17	5
Business Services	4	1
Other Industries	5	1
Cross-Industry Sectors:		
Engineering & Scientific	33	9
Systems Software Products	203	55
Total Software and Services	368	100

**INPUT estimates*

Organisational Structure

In October 1990, Hewlett-Packard began to implement changes in its managerial structure. This was aimed at simplifying its organisational structure, streamlining decision-making and giving managers more direct control over the technologies and sales activities required for the success of their business.

The company's activities are now organised into three divisions:

- Computer Systems Organisation
- Computer Products Organisation
- Test and Measurement Organisation

The Computer Systems Organisation brings together Hewlett-Packard's workstation and multiuser systems businesses.

The Computer Products Organisation combines Hewlett-Packard's PC and Peripheral businesses.

The Test and Measurement business combines the activities of Hewlett-Packard's Electronic Instruments and Microwave and Communication groups.

Exhibit I shows Hewlett-Packard's key executives and their responsibilities.

Exhibit I

KEY EXECUTIVES

David Packard	Chairman
Lew Platt	President and CEO
Dick Hackborn	Executive VP Computer Products Division
William E Terry	Executive VP Measurement Systems Organisation
Franco Mariotti	Snr VP and Director, Europe, Middle East and African Operations

Recent Major Projects

Examples of systems integration projects carried out in Europe by Hewlett-Packard are shown in Exhibit J.

Exhibit J

EXAMPLE OF PROJECTS
HEWLETT-PACKARD, SYSTEMS INTEGRATION

Sector	Project Purpose
Oil	Executive information systems providing access to IBM, Digital and UNIX equipment.
Process Manufacturing	Implementation of customized production management systems across three countries
Telecommunication	Improve office productivity by integrating IBM Profs and Digital All-In-One into an open environment

Source: INPUT

Key Products and Services

For the purposes of this profile, INPUT is concerned only with the Software and Services activities of the Computer Systems Organisation.

Within the software and services market, as defined by INPUT, Hewlett-Packard is active in the Systems Software and Professional Services areas. In 1992, INPUT estimates that European revenues earned from these two markets were $205 million and $120 million, respectively. In addition, Hewlett-Packard is keen to develop its business in the systems integration market.

Hewlett-Packard's Professional Services Operation, (PSO) is now part of the Intergated Systems Group rather than the Customer Support Organisation. The worldwide computer organisation is shown in Exhibit K.

Exhibit K

WORLDWIDE HP COMPUTER ORGANISATION

HP CEO - Lew Platt:

- Customer Support Operations - Jim Arthur
- Computer Products Organization - Dick Hackthorn
- Computer Systems Organization - Wim Roelands
  - Integrated Systems Group - Mike Leavell
  - Professional Services Europe - Mike George

The goal of Hewlett-Packard's Computer Systems Organisation is "to lead the world in open, easy-to-use, client/server systems." However, this goal becomes more difficult to achieve if the distribution channels providing access to major accounts become dominated by rival equipment manufacturers' systems integration-based account management approaches. Indeed, it may become impossible for Hewlett-Packard to gain access to large accounts unless it, too, develops its systems integration services.

The difficulties of marketing mainly equipment to Hewlett-Packard's target and major accounts was confirmed by a survey which indicated that:

- Clients would like Hewlett-Packard to offer consulting, system integration and education services in addition to equipment.
- Equipment sales would be assisted by provision of these services, and adversely affected if these services were not available.
- Hewlett-Packard was perceived as having an advantage over Digital and IBM in providing open systems, client/server solutions.

Accordingly, Hewlett-Packard's newly formed Professional Services Organisation (PSO) offers consulting, systems integration and education services with the goal of "making Hewlett-Packard's computer strategy successful by making its customers successful with open client/server systems".

Software support is now handled by a combination of the Response Centre Organisation and the System Support Organisation (SSO). In addition, SSO handles all field maintenance and environmental services.

Industry Focus

Hewlett-Packard is currently targeting two industry sectors: manufacturing and telecommunications, in which the company has high levels of knowledge and experience.

Hewlett-Packard recognises the need for a strong base of applications software products to support its development of these sectors, and hence the need to develop its long-term relationships with appropriate applications software products vendors.

Hewlett-Packard currently has partnerships with Software AG, QAD and Datalogic in Europe.

Company Direction

Hewlett-Packard views two key trends as driving the marketplace:

- The move to standards-based, open systems and software
- The growth of distributed, client/server computing.

In response to these trends, Hewlett-Packard has identified what it sees as four key customer needs:

- To take advantage of new technologies while protecting current IS investments
- To improve access to information
- To reduce costs of managing and operating information systems
- Technical expertise to supplement own staff.

Hewlett-Packard perceives that clients wish to move towards open systems, client/server environments, but in the short to medium term, any systems will have to accommodate, and co-exist with the client's existing applications. These existing applications have often been developed in-house on proprietary equipment.

However, this co-existence is creating substantial technology/network integration opportunities as clients seek better access to information across distributed systems and organisations.

Hewlett-Packard has positioned its Professional Services organisation to address these needs. It will continue to:

- Offer Consulting, Educational and Systems Integration services in focused areas to help customers successfully take advantage of open, client/server environments.

- Increase Hewlett-Packard's solution offering through extensive use of partners and sub-contractors to supplement Hewlett-Packard core expertise.

- Serve as sub-contractor to Hewlett-Packard partners where Hewlett-Packard offer core competencies.

The company will also continue its focus on the telecommunications and manufacturing sectors, where it has been successful in the past.

Unlike other services vendors, Hewlett-Packard does not offer business consultancy, but sees its role as becoming involved in establishing the linkage between business strategy and information systems, in areas such as transition planning and IS architecture planning.

Strengths and Weaknesses

Hewlett-Packard's main strengths include:

- Established Vendor

- Reputations for Quality Products

- Strong Support Services

- Strong Systems Integration Skills

Hewlett-Packard is an established vendor in the marketplace. Founded in 1939, Hewlett-Packard is, in fact, the most established of the equipment vendors. Hewlett-Packard is viewed by clients as a "tried and trusted" company that has stood the test of a changing technological environment and has still managed to retain its position at the forefront of the equipment industry.

Hewlett-Packard has built up a solid reputation as a provider of quality products. Its current product range encompasses more than 10,000 offerings. Hewlett-Packard has always manufactured quality products and has continued its quality leadership in standard based computing. So much so that the Open Software Foundation chose Hewlett-Packard technology as basic components of its Distributed Computing Environment.

Hewlett-Packard has another strength in its strong technical skills and resources, particularly for systems integration. One of the key skills of Hewlett-Packard's SI unit is the ability to network widely differing technologies. Another is the ability to assist clients in planning the transition between proprietary and open systems client/server architectures.

As open systems and client/server computing grow, Hewlett-Packard's long-standing strength in customer service and support will become a powerful competitive advantage - particularly in the software and services arena.

The key challenges facing Hewlett-Packard in becoming a world-class, open systems, professional services provider are:

- Developing a systems integration support infrastructure
- Developing multinational systems integration support capability

In particular, Hewlett-Packard is keen to develop the talents of its project managers, increase its experience in managing subcontractors, and develop its bid support capabilities.

Conclusions

Hewlett-Packard's Professional Services Organisation provides all professional services, including pre-sales support and project managers for systems integration projects.

Hewlett-Packard, like many of its fellow systems vendors, is keen to develop its presence in the systems integration market. The vehicle for expanding its presence is the Professional Services Organisation (PSO) formed two years ago from the company's Application Engineering Organisation.

However, in contrast to many of its competitors, Hewlett-Packard's declared rationale for its commitment to systems integration is not primarily to maximise its position within the European systems integration market, but to support its computer systems business. The key elements of Hewlett-Packard's systems integration strategy are:

- To become a world-class open systems professional services provider
- To provide solutions for the manufacturing and telecommunications sectors
- To focus on technology integration

In the manufacturing sector, Hewlett-Packard has its own mechanical CAD product, but is also targeting systems integration projects based on production management applications.

Hewlett-Packard needs to form partnerships with professional services vendors who are prepared to undertake systems development activities as subcontractors to Hewlett-Packard on large projects. In other instances, Hewlett-Packard may itself be the subcontractor on a project. Ideally, Hewlett-Packard needs to further develop working relationships with the major professional services vendors such as Andersen Consulting and Cap Gemini Sogeti.

COMPANY PROFILE

ING C OLIVETTI & C. S.P.A.
Corporate Headquarters
Via Jerris 77
10015 Ivrea
Italy
Tel: 39 1255200

Chairman: Carlo de Benedetti
Status: Public
Number of Employees: 40,401 (worldwide)
31,080 (Europe)
Revenue (FYE 31-12-92)
Worldwide: 8,026 Lire Billions
Europe: 6,662 Lire Billions

The Company

Olivetti is a leading European-based information technology group. It is active at the forefront of the computer and office automation industries, with products ranging from personal computers and minicomputers to specialized workstations and office equipment and software.

Olivetti was founded in 1908 at Ivrea by Camillo Olivetti and the company became famous in the 1920s as the first Italian manufacturer of typewriters. In the 1960s the company transformed its production activity to include electronic technologies alongside the traditional mechanical processes: in 1978 it was the first company in the world to present an electronic typewriter. In the 1980s it was the first European company to enter the information technology field with products like the M24 personal computer, minicomputers and networks. In 1987 Olivetti was among the first major international producers to announce its adherence to open systems when it launched OSA (Open Systems Architecture), a technological platform that encompasses the leading industry standards and is the basis of Olivetti's systems offerings.

The group employs some 40,000 people and has 19 Research and Development locations in eight countries and nearly 20 production facilities around the world. Commercial subsidiaries and a technical assistance organization operate directly in 32 countries through 4,500 dealers and 1,000 Systems Partners, and a network of agents is active in 90 countries where subsidiaries are not present. Its multi-vendor maintenance services have been particularly successful outside Italy.

The Olivetti Group has significant holdings in over 200 companies in the information-technology field and related sectors (components, tooling, engineering, etc.). Its most important foreign subsidiaries include TA Triumph Adler AG in Germany (typewriters, videotyping systems, personal and portable computers); Acorn Computers Ltd. in the U.K. (personal computers for education); U.S.-based ISC/Bunker Ramo, through which Olivetti rank second on the U.S. branch banking-automation market; and the Scanvest Olivetti in Norway, one of Scandinavia's largest information technology suppliers.

Financial Information

Exhibit A

OLIVETTI GROUP,
FIVE-YEAR FINANCIAL SUMMARY (FYE 31/12)

	1988	1989	1990	1991	1992
Revenues (Lire Billions):	8,407.4	9,031.2	9,036.5	8,607.1	8,026
Annual Growth Rate %	14	7	.05	(5)	(7)
Gross Profit (Lire Billions)		-	3,185.3	2,809.5	-
Annual Growth Rate %	-	-		(11.8)	-
Profit after Tax (Lire Billions)	-	-	60.4	(459.8)	(652.0)
Annual Growth Rate %	-	-	-	(861)	(42)
European Revenues (Lire Billions)		7,324	7,562	6,050	6,662

The above summary is for the whole of the Olivetti group.

Market Analysis

Exhibit B

1991 MARKET ANALYSIS BY GEOGRAPHIC REGION

GEOGRAPHIC REGION	REVENUES* (LIRE BILLIONS)	PERCENT
Italy	3,276.7	38.1
Germany	743.3	8.6
France	619.3	7.2
U.K.	615.2	7.1
Others	1,832.1	21.3
TOTAL EUROPE	**7,086.6**	**82.3**
Japan	309.0	3.6
Other Far Eastern Countries and Africa	422.5	3.6
TOTAL	**731.5**	**8.5**
North America	522.7	6.1
Latin America	266.3	3.1
OVERALL TOTAL	**8,607.1**	**100.0**

Source: Olivetti Group

**Note: Total Group Revenues*

Exhibit C

1991 MARKET ANALYSIS BY BUSINESS ACTIVITY (LIRE BILLIONS)

ACTIVITY	REVENUES* (LIRE BILLIONS)	PERCENT
Products	2,608	32.5
Systems	2,986	37.2
Services	2,215	27.6
Other	217	2.7
TOTAL GROUP	**8,026**	**100.0**

Source: Olivetti Group

**Note: Total Group Revenues*

INPUT estimates that 1992 software and service revenues for Olivetti in Europe amounted to $1,020 million. Total 1992 European Information Service revenues including equipment services revenues are estimated by INPUT to have reached $1,760 million. Exhibits D, E and F provide a breakdown of these European revenues by INPUT classifications.

Exhibit D

ESTIMATED REVENUES BY INDUSTRY SECTOR, SOFTWARE AND SERVICES, EUROPE - OLIVETTI, 1992

	REVENUES ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	215	21
Process Manufacturing	55	5
Transportation	35	3
Utilities	20	2
Retail Distribution	85	8
Wholesale Distribution	55	5
Banking and Finance	100	10
Insurance	30	3
Local Government	45	4
National Government	95	9
Business Services	45	4
Other Industries	10	1
Cross-Industry Sectors:		
Accounting	10	1
Education & Training	10	1
Engineering & Scientific	10	1
Human Resources	10	1
Office Systems	95	9
Planning & Analysis	10	1
Systems Software Products	95	9
Total Software and Services	1,020	100

**INPUT estimates*

Exhibit E

ESTIMATED REVENUES BY DELIVERY MODE, SOFTWARE AND SERVICES, EUROPE - OLIVETTI, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	95	2
Application Software Products	125	3
Turnkey Systems	185	4
Professional Services	410	8
Systems Integration	85	2
Systems Operations	50	1
Processing Services	50	1
Total Software and Services	1,020	21
Equipment Services	740	15
Total Information Services	1,760	36
Equipment/Other Revenues	3,095	64
Total European Revenues	4,855	100

**INPUT estimates*

Exhibit F

ESTIMATED REVENUES BY COUNTRY, INFORMATION SERVICES, EUROPE - OLIVETTI, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	205	12
Germany	130	7
U.K.	220	13
Italy	735	42
Netherlands	54	3
Belgium/Lux'	75	4
Spain	109	6
Switzerland	30	2
Austria	18	1
Sweden	6	<1
Denmark	64	4
Norway	51	3
Finland	13	1
Ireland	5	<1
Portugal	26	1
Greece	8	<1
Eastern Europe	9	1
Total Information Services	1,760	100

**INPUT estimates*

Organisational Structure

Olivetti's streamlined organisational structure is designed for responsiveness to changing market demands and optimisation of production and managerial cost structures. The group is divided into three principal operating divisions that correspond to the major business areas in which Olivetti is engaged: Central Operations, Diversified Activities, with support activities provided by central staff, and Olivetti Information Services (OIS).

Central Operations includes two units: Industrial Operations, which is responsible for designing, developing and producing the entire Olivetti product offer; and Marketing of Services, which oversees the commercialisation and distribution of solutions and services based on OSA.

Diversified Activities, Planning and Development plans and coordinates the various technological and commercial development programs of the company, in particular those related to Triumph Adler, Acorn, Teknecomp (components), Synthesis (office furniture) and Omnitel (Cellular telephones).

Public Authorities coordinates the strategic and commercial development of Olivetti's presence in the central and local public administration sectors in Italy, and the company's participation in national and regional programs for industrial investments in southern Italy.

Olivetti Information Services in Italy offers computer services for business users: software value-added network services, voice/data services and managerial consulting and training.

Key Products and Services

Olivetti categorises its offerings into three product areas. These are:

- Products
- Systems
- Business Services

Products

Olivetti is a leading manufacturer of PCs and minicomputers. It supplies mid-range systems, PC-based workstations and computing peripherals including printers and terminals. In 1991, Olivetti entirely renewed its PC offer, with a new family of portable PCs, 'Olivetti 1'. For the Italian market Olivetti offers a broad range of mainframes.

Systems

In the software and services sector, Olivetti has broadened considerably the range of optimised solutions available for its hardware architecture, through its product offerings and a wide network of technological agreements. The strengthening of the Olivetti Systems Partner network was an important factor in building up Olivetti's range of applications.

Olivetti's products and services are built around its Open Systems Architecture (OSA), which is an integrated architecture containing reference standards, technologies, added value services and products which interconnect to make a complete system offer. Olivetti offers specialised software products and solutions within the OSA framework.

Product offerings include:

- Systems software
- Applications software
- CASE tools
- Network and system management applications.

Olivetti recently announced its integrated CASE tools (I-CASE) range, designed to automate banking applications development for open systems.

The tools are aimed at helping branches to build competitive applications that take advantage of recent re-regulation, quickly and at lower costs than using traditional methods.

According to Olivetti, there is a banking applications backlog of between 2 and 4 years. Olivetti's I-CASE tools shorten development time by offering visual programming technologies, navigation tools and customisable building blocks.

Using a choice of standard GUI's (Graphical User Interfaces, such as OS/2 Presentation Manager and MS Windows) and running on client/server architecture, Olivetti's Open CASE incorporates the Envision upper CASE tool. Lower CASE tools feature A2B, Olivetti's new Application Builder tool, as well as DME and Visual Form. The shared Open Systems Architecture Repository, which supports OS/2 and UNIX SVR4.0, ensures data integration across upper and lower CASE tools.

Another recent product is Olivetti's Departmental Management Centre (DMC) solution for network and system management on the Olivetti ISX 5000 line of systems based on UNIX system V Release.

Olivetti's DMC makes use of Digital Equipment Corporation's software technology by building on an open standards-based platform to provide customers with advanced management solutions. These can effectively manage, through an integrated and consistent approach, all aspects of distributed, heterogeneous computing.

The new DMC product also integrates Olivetti's existing management offering. These will evolve to provide scalable departmental and enterprise level solutions within the Olivetti Open Systems Architecture Network and System management profile.

Business Services

Olivetti's newly formed Business Services area will focus on expanding the company's presence in the two product areas mentioned, Products and Systems.

The Olivetti Group also has a dedicated unit, Olivetti Information Systems (OIS), which specialises in a wide range of software and service activities, including consultancy training and systems development. OIS operates primarily in the Italian market, where it is one of the leading software and service vendors.

OIS operates through a number of subsidiaries, each of which specialises in a particular market or sector. It is also involved in the Software Engineering Research Centre, a joint project formed with a number of large companies and banks in Italy.

Company Strategies

(a) Company Direction

Olivetti's strategic objective is to meet the market challenge of the 1990s as an innovative organisation, capable of providing users with a flexible, open response as their needs change. In particular, Olivetti intends to consolidate its double market role as a product supplier and a solution provider, supplying standard products, services, systems integrated skills and related offerings.

To achieve this, Olivetti is taking steps to boost innovation in its offerings, restructure its organisation in line with market trends, reduce costs and control cash flow. The first measures were launched in 1991 and further action is being taken in 1992. The objectives of the corporate re-organisations were to streamline structures, reduce the number of management levels, introduce corporate models permitting greater reactivity to market and technology trends and concentrate resources on research, application development, marketing and services, with particular emphasis in the most strategic geographic markets.

Olivetti views achieving the specific objectives of its 1992 company plan as vital to recovering the level of competitiveness needed to keep pace with current trends in the IT industry.

(b) Strengths and Weaknesses

Olivetti's main strengths can be summarised as follows:

- Established vendor
- Capacity for Innovation
- Extensive Sales and Support Organisation
- Wide-ranging network of alliances
- Commitment to Research and Development.

One of Olivetti's main strengths is its position as an established vendor. The company was founded in 1908 as a manufacturer of typewriters and was the first company in the world to present an electronic typewriter in 1978. It also has a strong capacity for innovation with the development in the 1980s of its M24 PC and its minicomputers and networks. It was also among the first of the equipment vendors to announce commitment to open systems when it launched its Open Systems Architecture in 1987.

A major factor in the Olivetti Group's success has been and continues to be its strong commitment to research and development. Investments over the two-year period 1987-1991 amounted to Lire 2,300 billion and approximately 3,800 people working in the group's R&D laboratories around the world. In addition, the proportion of R&D spending to hardware and software product revenues doubled from 4% to 8% in the period from 1979 to 1991.

The Olivetti Group has a direct sales and support organisation active in 32 countries and a network of more than 5,500 systems partners and dealers. It operates through agents in 90 other countries where no sales subsidiary is present. The direct sales organisation is subdivided into five geographical commercial areas and works with dedicated units in specific vertical markets such as finance, public authorities and retail.

Olivetti has another strength in its extensive network of alliances with technology leaders such as Intel, Microsoft, Novell, Andersen Consulting, Digital, Informix and Oracle. Olivetti has been building up its alliance network for over a decade. Its most recent alliance has been with Digital for advanced joint R&D work.

The main challenge facing Olivetti is to establish a clear identity in the software and services market. Olivetti Information Systems is a large vendor in European terms but operates in the Italian market and has little activity outside its domestic borders. Olivetti is very product-oriented elsewhere in Europe and hence is not perceived as a software and services company. It needs to enhance its visibility in this sector, perhaps an acquisition strategy or movement of the OIS capability into Europe.

(c) Conclusions

Olivetti has a strong record of financial performance, but like its competitors has been affected by the slow-down of the computer industry in Europe. To improve its profitability, it is in the process of effecting a vigorous programme of structural re-organisation and staff reduction.

During 1992, OIS strengthened the operating revenues of its subsidiaries. The reduction in the overall group revenues was attributable to lower sales in hardware product revenues.

Olivetti Group was confident that its re-structuring and streamlining programme would enable it to perform better in 1992 and beyond. But the depth of the recession was underestimated.

Olivetti aims to move more towards the software and services market, where it sees its future in integrated solutions. It has a track record as a ground breaker and has the added advantage, unlike other systems vendors making the transition, of not being tied to an installed base of proprietary systems. If it can contain costs and promote a more visible image of its direction in the software and services market, Olivetti should be equipped to keep pace with the overall development of the market.

Olivetti has established a lead in the niche market of multi-vendor maintenance in Europe. INPUT expects the company to continue to develop this business successfully even though many other equipment vendors have now recognised the rising market demand. In particular the popularity of open systems is creating major opportunities for those as skilled in managing multi-vendor maintenance contracts as Olivetti.

In 1992 Olivetti shed 15% of its staff. The number of employees fell by over 6,000 worldwide. It seems that such restructuring will need to continue if the company is to create the profits with which to invest in building its software and services activities. These secondary activities still serve the product business. It seems likely that the only services business which Olivetti will develop independently of the product side is the multi-vendor maintenance initiative.

COMPANY PROFILE

INTERNATIONAL BUSINESS MACHINES (IBM) CORPORATION
Old Orchard Road
Armonk, NY 10504
U.S.A.
Tel: (914) 765-1900
IBM Eurocoordination S.A.
Tour Descartes Cedex 50
92066 Paris-La-Defence
France
Tel: +33 (1) 49 05 90 00

Chairman: Louis V. Gerstner, Jr.
Status: Public
Number of Employees (End 1992): 301,542
Revenue (FYE 31-12-92): $64.5 billion

The Company

IBM is the world's largest vendor of computer hardware and related software and services. It has traditionally been known more for its marketing strength and customer support than technical leadership. Among suppliers, IBM has the broadest product line and it services virtually all industry sectors.

In 1992, IBM reported worldwide revenues of $64.5 billion and a loss of $4.97 billion after restructuring charges. Net earnings on operations, however, were $2.6 billion before taxes and charges.

IBM has a very broad set of competitive capabilities in the market. Although it still controls over 50% of the U.S. computer market (70% for mainframes) it only has about 20% of the worldwide market, down from a 30% marketshare in 1985.

In the light of its difficulties of the past few years, IBM has taken drastic actions to reduce costs, to streamline its structure and to sharpen its worldwide competitiveness.

It has consolidated manufacturing capacity and reduced layers of management by offering a number of financial incentives and early retirement plans. To respond to a market that is increasingly interested in buying integrated system solutions rather than products for specific tasks, IBM has worked hard to convert a marketing organisation that is product-sales oriented to one that is focused on providing solutions to customers. Systems integration, facilities management and an increasing array of consulting, functional and operational services have become major ways to closer customer relationships.

IBM Financial Information

A five-year financial summary for IBM is provided in Exhibit A.

Exhibit A

FIVE-YEAR FINANCIAL SUMMARY FOR IBM (FYE 31-12)

	US$ MILLIONS				
YEAR	1988	1989	1990	1991	1992
Worldwide Revenues	59,598	62,654	68,931	64,766	64,523
Annual Growth Rate (%)		5.1	10	-6.0	-0.4
Profit After Tax	5,741	3,722	5,967	-2,861	-4,965
Earnings per Share ($)	9.7	6.4	10.4	-5.0	-8.7

Source: IBM

IBM revenues in 1992 were essentially flat compared to the year before. The $4.97 billion loss resulted from $11.6 billion in restructuring charges for workforce and capacity reductions. Results were affected by the revenue decline in high-end systems and by continuing price wars in the personal computer business. At the same time, IBM continued to shift resources towards consulting, systems integration and related services.

Revenue from sources other than hardware accounted for 48% of IBM's total, up from 43% the year before. Services revenue grew 32% year-to-year worldwide, and in Europe IBM reported that they had become the largest IT "professional services" company with revenues of more than $2.2 billion.

Market Analysis

A geographical breakdown of IBM's revenues is provided in Exhibit B.

Exhibit B

REVENUE BREAKDOWN BY REGION

YEAR	1990	1991	1992
United States			
- Revenues ($m)	27,106	24,427	24,633
- Percent	39	38	38
Europe/ Middle East/Africa			
- Revenues ($m)	27,197	26,114	24,971
- Percent	39	40	39
Asia Pacific			
- Revenues ($m)	9,544	9,275	9,672
- Percent	14	14	15
Americas			
- Revenues ($m)	5,084	4,950	5,247
- Percent	7	8	8
TOTAL ($M)	**68,931**	**64,766**	**64,523**
- PERCENT	**100**	**100**	**100**

Source: IBM

Percentages subject to rounding errors

Exhibit C provides a breakdown by product category.

Exhibit C

THREE-YEAR REVENUE BREAKDOWN BY TYPE OF OFFERING

YEAR	1990	1991	1992
Software revenues ($m)	9,865	10,498	11,103
- Percent	14	16	17
Maintenance revenues	7,198	7,414	7,635
- Percent	10	11	12
Services revenues ($m)	4,124	5,582	7,352
- Percent	6	9	11
Other inc rentals revenues ($m)	47,744	41,272	38,433
- Percent	69	64	60
TOTAL ($M)	**68,931**	**64,766**	**64,523**
- PERCENT	**100%**	**100%**	**100%**

Source: IBM

Percentages subject to rounding errors

INPUT's analysis of IBM's software and services revenues in Europe is provided by delivery mode in Exhibit D, by industry in Exhibit E and by country in Exhibit F.

Exhibit D

ESTIMATED REVENUES BY DELIVERY MODE, SOFTWARE AND SERVICES - EUROPE, IBM, 1992

DELIVERY MODE	REVENUES ($ MILLIONS)	SHARE (%)
Systems Software Products	3,785	16
Application Software Products	215	1
Turnkey Systems	250	1
Professional Services	1,285	5
Systems Integration	750	3
Systems Operations	50	<1
Network Services	145	1
Processing Services	160	1
Total Software and Services	6,640	28
Equipment Services	3,170	13
Total Information Services	9,810	42
Equipment/Other Revenues	13,745	58
Total European Revenues	23,555	100

* *INPUT estimates*

Exhibit E

ESTIMATED REVENUES BY INDUSTRY SECTOR, SOFTWARE AND SERVICES - EUROPE, IBM, 1992

	REVENUES* ($ MILLIONS)	SHARE (%)
Industry Sectors:		
Discrete Manufacturing	390	6
Process Manufacturing	175	3
Transportation	30	<1
Utilities	95	1
Telecommunications	55	1
Retail Distribution	155	2
Wholesale Distribution	185	3
Banking and Finance	680	10
Insurance	270	4
Healthcare	55	1
Education	40	1
Local Government	55	1
National Government	55	1
Business Services	55	1
Other Industries	95	1
Cross-Industry Sectors:		
Engineering & Scientific	85	1
Office Systems	285	4
Planning & Analysis	85	1
Systems Software Products	3,785	57
Total Software and Services	6,640	100

* *INPUT estimates*

Exhibit F

ESTIMATED REVENUES BY COUNTRY, INFORMATION SERVICES EUROPE, IBM, 1992

COUNTRY	REVENUES ($ MILLIONS)	SHARE (%)
France	1,825	19
Germany	2,455	25
U.K.	1,225	12
Italy	1,305	13
Netherlands	539	5
Belgium/Lux'	263	3
Spain	409	4
Switzerland	378	4
Austria	216	2
Sweden	373	4
Denmark	307	3
Norway	195	2
Finland	132	1
Ireland	63	1
Portugal	50	1
Greece	23	<1
Eastern Europe	52	1
Total Information Services	9,810	100

* *INPUT estimates*

Organisational Structure

IBM Corporation is organised in a number of units, including IBM Credit Corporation (1,120 employees) and the IBM Research Division (3,139 employees).

Manufacturing and Development

There are nine manufacturing and development businesses:

- Enterprise Systems
- Application Business Systems
- Personal Systems
- Adstar
- Pennant Systems
- Networking Systems

- Application Solutions
- Programming Systems
- Technology Products

The responsibilities of the nine business units are:

Application Business Systems develops and manufactures processors and related software for small- and medium-sized businesses and departments of large companies.

Enterprise Systems provides enterprise-wide solutions involving the development and manufacture of IBM's largest general-purpose processors, operating systems, systems software and supercomputering offerings.

Networking Systems provides products and services for operating and managing networks that deliver information electronically to users within an enterprise and externally to customers, suppliers, distributors and others.

Pennant Systems Company develops and manufactures IBM's printers and printing solutions, including advanced-function printers, software and printing services.

Personal Systems develops and manufactures personal computers and high-performance workstations and their operating systems, as well as multimedia graphics and display systems.

Programming Systems develops software for data management, office systems decision support, and application development, and the architecture for a consistent software structure across all lines of business. It also manufactures and distributes software.

Adstar develops and manufactures a range of direct access storage devices, tape drives and optical storage devices and their associated software.

Technology Products develops and manufactures logic and memory chips and electronic circuit packaging used in IBM products.

Application Solutions (AS) is the focal point for providing total solutions, consultancy and systems integration services within IBM.

Marketing and Service

Geographical cover is achieved via marketing and service units:

- North America
- Europe/Middle East/Africa*
- Asia Pacific
- Latin America

** Europe accounts for approximately 95% of revenue of this area.*

The geographical units are responsible for understanding customers' business and IT needs and to help them address them with the help of IBM's technology, services and solutions.

Where the customer is already familiar with solutions, he may want to buy boxes at the lowest price. Where he wants something unique and new, providing him with competitive edge, he will contract for a combination of products and services that deliver specified functions for a fixed price at a certain date.

Finally, he may opt to outsource his IT activities to a contractor and focus his own people on his core business.

The Marketing and Services units are organized to address any of those different levels of need. Specifically, over the last four years, more and more IBM employees have been redeployed and retrained to be able (a) to help customers define their needs and (b) to provide appropriate responses to them.

IBM's services business is organized in several distinct segments:

- Consulting
- Education
- Application Development and Delivery
- Operations Support Services
- Business Recovery Services
- Facility Management and Networking Services

Software and Services in Europe

The overall organization, in combination with the software business, is managed by Jean-Charles Levy, General Manager, Software and Services, Europe.

The holders of the following posts report in to him:

- European Director EMEA (for ITSO)
- VP Worldwide Business Transformation Consulting
- VP Worldwide Networking Consulting Practice
- Director of International Operations CE

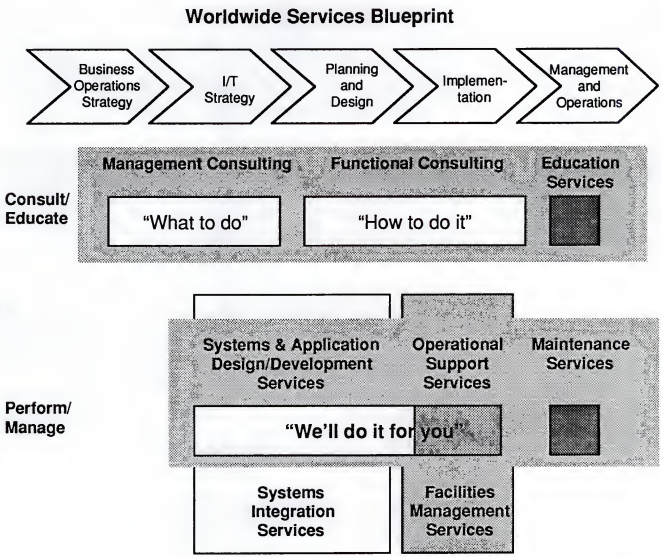
- European Director Software
- General Manager Education Europe
- General Manager Integrated Services Solutions
- European Director Customer Service

- Manager of S&S Strategies
- Director of S&S Plans and Control
- Counsel Software and Services

Worldwide Services Blueprint

IBM has defined its concept of services in terms set out in Exhibits G and H below.

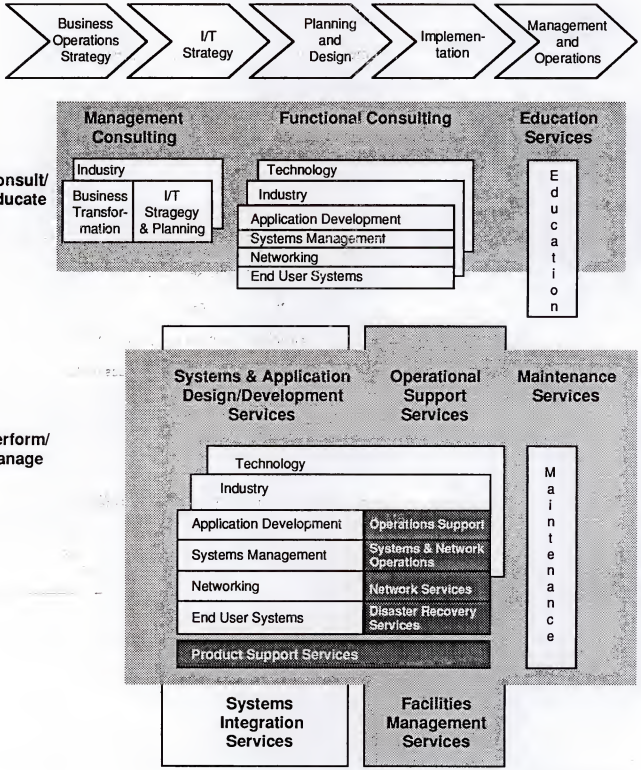
Exhibit G



Source: IBM

Exhibit H

Worldwide Services Blueprint



Source: IBM

Acquisitions

IBM Collaboration Initiatives

Exhibit I lists some major collaborative alliances undertaken by IBM.

Exhibit I

EXAMPLES OF IBM COLLABORATIVE VENTURES

COMPANY	DESCRIPTION
Apple/Motorola	Development agreement with Apple covering object-oriented software
Lotus	Marketing and development agreement for *Notes* and *cc: Mail.*
Wang	IBM states intention to invest $100 million *June 1991.* Wang has agreed
Novell	*February 1991.* An agreement to market and develop networking
Coopers & Lybrand	Meritus, manufacturing marketing agreement
Thomson/	IBM has a 49% stake in this joint venture with Thomson SA to
Keon	Creation of joint venture company in Spain, to address digital
Bank Degroof	Joint company formed in Belgium to develop banking applications.
Servicios de Informacion Geografica SA	Joint venture of IBM Espana (51%) and Trabajos Catastraies Tracasa (49%) *December 1991.* Company to market geographical information products and services.
Systems Facilities	A joint venture formed in *June 1990* between IBM Nederland and for IBM mainframe systems.
Computer-Systemdienste GmbH	Joint venture between IBM Deutschland and Robotron Acosta AG to exploit systems and services opportunities in the former East Germany, *October 1990.*

Exhibit I (Continued)

EXAMPLES OF IBM COLLABORATIVE VENTURES

COMPANY	DESCRIPTION
AD/Consultants SA	Former joint venture with Cap SESA SA, now 100% IBM-owned, to provide software engineering workshop services based in AD/Cycle.
INTEXIS SA	Joint venture with Soleri-Cigel SA (51%) *October 1990* in France to offer systems integration services to financial institutions.
Tournet SA	Joint venture formed *November 1989* to offer value-added network services.
Axone	Formed in *1987* with SEMA Group and Credit Agricole, now 100% IBM-owned, to offer systems operations services.
Dannet AS	A 50/50 joint venture between IBM and the Danish Telecom to offer value-added network services.
Intesa	A Fiat/IBM joint initiative set up in *1988* to provide information services.

IBM formed the joint-venture consultancy and services company, Meritus, with Coopers & Lybrand. Initially active in the United States, it will support manufacturing companies in the consumer packaged goods, pharmaceutical, aerospace, defence and automotive industries.

IBM Espana SA took a 30% stake in a new company Keon (May 1991), capitalised at $833,333. Other partners are Banco Bilbao Vizcaya SA (30%), Iberduero SA (30%) and Socintec SA (10%). Keon will specialise in technical software for document processing and in industrial applications based on expert systems.

IBM Belgium set up in 1991 a 50/50 joint-venture company (capitalised at $3 million) with Bank Degroof, Finance Technology SA/NV, to operate in Belgium and Luxembourg, and to develop a modular suite of banking software for banks with less than 1,000 staff. The systems are to be based on AS/400 platforms.

Tournet SA, capitalised at $3.7 million in November 1989 with IBM Belgium holding a 40% stake, SEMA Belgium 20% and CODITEL SA 40%. Tournet was formed to offer value-added network services to the European travel industry.

Equity Stakes

In addition to collaborative ventures, IBM has also executed a policy of taking equity stakes in existing companies. Some examples are given in Exhibit J. IBM's motivation seems to have been principally one of gaining more control over the product development policies of these companies, marketing agreements have usually existed as well for channelling software products to customers.

Exhibit J

EXAMPLES OF IBM EQUITY INVESTMENTS

COMPANY	DESCRIPTION
Dassault Systems	*July 1992.* IBM extends previous partnership with a minority stake to develop and market products for CAD/CAM/CAE application development.
Machines Bull	*June 1992.* $100 million investment for 5.68% equity share and wide-ranging development, manufacturing and sales agreements in the open systems environment. IBM licenses Bull to develop and manufacture systems based on Power PC RISC microprocessors, and to sell IBM RS/6000 under its own brand. Bull supplies circuit boards and customized portable PCs (through Zenith Data Systems) to IBM.
CGI	*June 1993.* $460 million investment in the form of IBM-convertible bonds to acquire as a subsidiary of IBM France this leading software and services firm specialising in CASE tools, custom application development and consultancy.
CRI	50% equity participation in this Danish application developer and systems integrator.
Industrial Computing Designs Corp.	Undisclosed majority stake taken in *July 1991*
Enator	Minority stake in Swedish-owned professional services company specialising in airline systems.
Quality Software Products	10% stake in QSP, a U.K.-based accounting applications product vendor.
Policy Management Systems	A 20% equity interest worth $116.5 million at time of purchase - *July 1989.*
American Management Systems	$18 millions equity stake - *July 1989.*

IBM has also developed collaborative agreements and services through IBM's marketing organisation. In practice, control over R&D policies, particularly in respect of open systems platforms, is probably frustrating the original objectives. It can therefore be expected that IBM will reverse out of many of these equity participations, placing more emphasis on joint ventures where control can be exercised through 50/50 ownership agreements.

IBM has also developed collaborative agreements to support its own R&D objectives. For example, IBM and Siemens are jointly producing the 16-megabit memory chip and share development costs for 64-megabit and (with Toshiba) 256-megabit generations.

In September 1991, IBM announced a joint development agreement with Thinking Machines, the company with the reputation of a leader in the field of massively parallel supercomputing.

The intentions are to develop links between IBM's mainframe computing environment and Thinking Machine's Supercomputers, and to undertake joint development of supercomputer software.

Key Technologies and Skills

Service and Repair IBM possesses outstanding integral strengths in service and repair. Capabilities include wide geographic coverage, an efficient parts distribution and support network, second- and third-level support personnel in branches, remote diagnostic centres and a problem/solution/fix status data base called RETAIN. IBM will support other vendors' products as well as its own.

Software Maintenance IBM has an outstanding software maintenance capability that contains most of the same support elements as hardware support, described above.

Application Design and Development IBM's federal organisation developed effective software, systems engineering and integration and test skills and practices to address federal contracts.

Systems Integration IBM's significant experience in very large federal SI projects caused it to develop a strong set of programme management practices. These practices are well documented and have been transferred through education programmes to IBM's commercial and non-U.S. SI personnel.

Software Development IBM has much experience developing complex systems software. It has less experience in applications software. Its application solution strategy is based on a variety of application packages, many developed by equity partners, that IBM will tailor to meet its clients' needs. When significant custom development is required, IBM currently looks to subcontractors who generally have a lower cost structure.

As AD/Cycle becomes available, INPUT expects IBM will use its own personnel more for developing custom software.

Education, Training and Documentation IBM has extensive capabilities in the area of technical training based on its need to train its customers on its products. Among vendors, IBM offers education across the broadest range of topics with the greatest geographic coverage. IBM has also applied advanced technology, such as satellite communications, for good, cost-effective education.

Packaged Systems Software Systems software is one of IBM's major strengths. There are few practical alternatives to the industry mainframe standards IBM has established with MVS, CICS, IMS and DB2. IBM offers effective systems software on its smaller systems, however, it still needs to solve interoperability and connectivity problems among minis, PCs and mainframes. It addresses the issue through Systems Applications Architecture (SAA) and is rapidly introducing open systems capability in all its product families.

Client/Server Computing IBM formed a Client/Server Computing business unit in late 1992, working across lines of business and geographic units, to coordinate the company's solutions in distributed, interoperable, multivendor computing environments. In Europe, the focus of activity for IBM's Open Client/Server Computing are Open System Centers (OSDs) now in operation in most countries.

Facilities Management In 1992, calling on its experience in running complex computer centers and networks, IBM entered the facilities management market in Europe. Nine 100% subsidiaries were created in which IBM Information Services (internal computing) organizations, its Information Network business and specialized FM project managers now offer outsourcing services.

Standard Computer Hardware This is a major IBM strength. It is the world leader in terms of the breadth and depth of its product line. This advantage has, at times, been eroded, as highly focused companies such as Apple, SUN and Tandem produced superior products. While IBM's offerings have, in the past, suffered from lack of compatibility and poor connectivity, new families of products - PS/2, AS/400, System/390 and SAA - have placed IBM in a strong competitive position.

IBM will almost always bid its own hardware. Exceptions are made where it lacks specialised hardware components, where it does not have a product, where its product does not meet specifications or where the customer has specified another vendor's equipment. IBM negotiates with other computer industry vendors to add non-IBM products where it does not have a product that is required by the IBM customer.

Original Equipment Manufacture IBM has entered the OEM market in a decisive way, offering a wide range of products (some of which may not yet be incorporated into its own systems) – from high-end magnetic storage devices, through PC components, to networking software.

Custom computer hardware and software IBM develops industry-specific systems and application software modifications. Two examples illustrate the activity:

a) The IBM Touchmobile is a hand-held data collection and communication system designed primarily for mobile workers in the transportation industry. Pen-based, with a touch screen and portable, it contains a laser scanner to record bar codes on merchandise, and can transmit to or receive data from a central point.

b) IBM Retail Application/DOS enables single-unit and small store chains to automate, track and report point-of-sales tasks such as price changes and inventory management, capabilities previously available only to large retail establishments.

Communications Hardware IBM offers a limited series of communications controllers, modems, multiplexers and diagnostic units.

Strategic Analysis

(a) Company Direction

In January 1993, IBM Chairman John Akers announced he would step aside. The board of directors conducted an intensive two-month search, which resulted in the appointment of the first chief executive from outside the company. Previously chairman of RJR Nabisco, a U.S. tobacco and food giant, Louis V. Gerstner, Jr. took over as Chairman and CEO of IBM on April 1, 1993. He had earlier served as president of American Express and was a director of the U.S. management consultancy, McKinsey & Co.

At the beginning of 1992, IBM set in motion comprehensive changes to redefine IBM from a single, centralised company to a network of more competitive businesses.

It aims to increase the independence of its manufacturing and development businesses and also its marketing and service companies. Each business will be more focused and responsive to its market. At the same time, these businesses and companies will remain linked and able to draw upon the full range of IBM's technological and financial resources.

The marketing and services companies will focus more on market selection and consulting services and will offer products and services from IBM, combined with, as appropriate, those from other companies to provide integrated solutions tailored to customer needs.

The manufacturing and development units will optimise product manufacturing and development and sell their products to other manufacturers.

Through its increasingly segmented organization, IBM is trying to provide solutions for all vertical industries as well as cross-industry applications. Its strategy is to team up with software developers and integrators that have known capability in the different vertical markets while building its own application knowledge and software portfolio. IBM's equity investment in key software developers also supports this objective.

IBM is also expanding the career paths for its services specialists by adding five categories of professions: client executive, consultant, architect, project manager and opportunity manager.

This aims at improving and motivating employee commitment and ultimately, customer satisfaction.

i) Consulting

Business Consulting - IBM's consulting capability is strongest in technology areas and weaker in vertical industry applications. The company is making a conscious effort to strengthen the latter by hiring professionals with experience who add business consulting capability in vertical industry markets. IBM recently hired experienced business consulting professional Robert M. Howe from Booz, Allen & Hamilton as General Manager, Consulting Practices and Operations. One disadvantage IBM has as a consultant is its perceived lack of solution objectivity, and this is most likely true.

IBM's current services strategy is formed around three types of offerings: business consulting, application and systems development, and operational management. There are now more than 100 IBM application and system centres worldwide, as well as a worldwide services council for ensuring consistency and quality in IBM's key services offerings.

ii) Geographic Coverages

IBM's geographic coverage is arguably the strongest in the industry, with good coverage of all the major national markets.

iii) Partnerships

IBM has hundreds of alliances with marketing assistance partners (MAPs), system integrators and other partners, examples of which are discussed above under the sub-section Collaboration Initiatives.

(b) Strengths and Weaknesses

(i) Strengths

IBM possesses impressive strengths that cannot be overlooked:

The company has excellent technical skills, the broadest geographic coverage of any vendor, a strong federal Systems Integration background, and a full range of alliances with excellent team partners and subcontractors.

Over the last two years, IBM has made significant strides to improve its vertical industry capabilities. Through a worldwide applications solution focus, it is developing templates for vertical industry application requirements. These templates will ultimately become input to IBM's AD/Cycle and PACBASE products, and permit IBM to tailor customer-unique solutions very competitively.

- IBM has an immense customer base. On a worldwide basis, it includes the largest companies in every industry sector.

- IBM has a strong base of internal systems integration skills.

- IBM's ability to invest in applications solutions is tremendous. The ability to invest in developing replicable solutions may prove critical in the SI market. IBM has established the organisation and resources to accomplish this.

- With its broad and widely accepted product lines, large customer base and immense investments in technology, IBM has the ability to attract a broad range of third parties that are willing to be partners, team partners and subcontractors. IBM has literally hundreds of these alliances in place today.

(ii) Weaknesses

IBM has several areas of weaknesses, although it is aware of most of its limitations and is taking action to correct them.

- IBM's broad product line, in many areas, suffers from incompatibility and lack of connectivity. This is one of the major reasons that IBM originally established an Systems Integration capability and is implementing SAA. Solving this problem will result in a stronger product line but, at the same time, eliminate some of the need for systems integration.

- IBM has traditionally had a very distinct preoccupation with hardware products. While it has become more market-driven and is addressing its clients' needs through its wide range of services, it has yet to prove that it can successfully bring together SAA, AD/Cycle and its vertical industry architectural templates.

- The marketing organisation must learn and accept a new direction and set of skills. Its traditional orientation emphasises the sale of products, not solutions. The sales organisation is used to immediate results based on product shipments, not long-term returns based on lengthy programme development and implementation cycles. IBM has revised its sales incentives to place equal emphasis on services and products, yet it remains to be seen if the sales organisation will respond to this change in emphasis.

- It is clear that customers are looking for industry knowledge and application expertise. IBM, because of its broad customer base, is attempting to develop expertise in all industries. There is still a question whether IBM, regardless of its size and resources, can attract the talent required to achieve this ambitious goal in the near term.

(c) Conclusions

IBM has clearly recognised the need to be market-driven and to develop and market solutions rather than products. This major transition will continue as long as IBM sees this as the only option in maintaining its market position. While some aspects of this strategy may change, the thrust is expected to continue.

INPUT also believes that IBM will continue to focus on developing replicable solutions to leverage its development investment and reduce the skill requirements and risks associated with one-of-a-kind SI engagements. INPUT also believes that IBM will continue to focus more on internal training and tools to improve the productivity of its personnel. It will also depend on its AD/Cycle applications development and maintenance strategy to make it much more competitive in the professional services and systems integration arena.

Strategic Assessment

IBM as the world's largest computer company has suffered recently the most severe setbacks to its growth ambitions of all the major systems vendors. Ever since the middle of the 1980s (at its employment peak) it has been attempting to adjust and adapt its vast organisational structure to rapidly changing market conditions. It just has not been able to move fast enough to succeed in staying ahead of the trends.

Restructuring, a proliferation of alliances, joint ventures and share ownership of software and services vendors have all been employed in an attempt to extend its sphere of influence and to shore up its core product-based revenue streams.

IBM's past strategy, enabled by its size and ability, was to establish and maintain account control and set standards, causing customers to remain close to the IBM product line. But IBM has not always had the right product at the right time, and often the products provided weren't designed or the software wasn't available to make them work well together. Customers were often frustrated and angered by this approach, and competitors made serious inroads into IBM's customer base. The adoption of a Systems Integration capability including a willingness to integrate non-IBM sourced equipment has undoubtedly had significant success in reversing this customer dissatisfaction.

The closeness of the SI vendor to the customer ensures that IBM's software and services organisation has a source of market intelligence on emerging requirements. The residual application and industry experience gives IBM a strong sense of what the customer wants and needs. The company expects to turn this experience into the vertical and cross-industry products that it can replicate across a broad range of customers. Some products will be off-the-shelf and others will require tailoring and offer the opportunity for SI or professional services implementation revenues as well. This strategy could also result in IBM becoming a much larger player in the turnkey market, where it enjoys limited participation today.

IBM is expected to merge its systems integration units and capabilities back into its distributed sales and services organisation. SI is no longer seen as the exception in dealing with solutions, it is now normal practice in designing and delivering what major customers want.